

ENTREPRENEURIAL SPIRIT AND
RESEARCH EXCELLENCE IN SAXONY-ANHALT

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IMPULSE MAGAZINE

03 /// 2016

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**SUCCESS FROM
ONE SOURCE**

SLM supplies the
automotive industry with
plastic components

**THE SIMULATION
SPECIALISTS**

tarakos develops planning
software for the fields of
production and logistics

THE EVOLUTION OF THINGS

benjamin GmbH
breaks up rigid patterns
with “fluid logistics”

MARKET OF THE FUTURE MOBILITY AND LOGISTICS

COVER: **Virtual planning:** the company tarakos has developed a software program which simulates production facilities.

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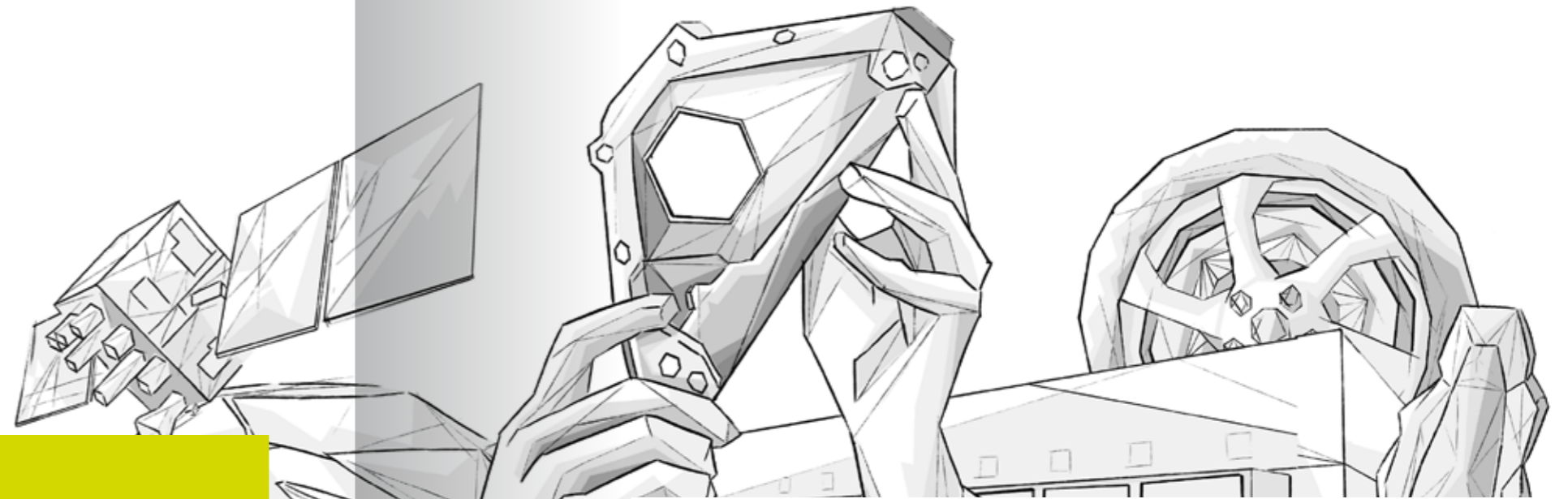
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HERE IS YOUR LOGISTICS INTERFACE.

The growing worldwide need for mobility requires innovative and sustainable transport solutions. In the future, the market will be determined by energy-efficient, emissions-saving vehicles and manufacturing technologies, as well as intelligent multi-modal transport systems. Saxony-Anhalt is bringing dynamism to the mobility of the future.

Central Germany has always been a hub for important trading routes. Companies value its central location and excellent infrastructure, both of which are essential for efficient logistics. The requirements surrounding the logistics sector have increased enormously – more and more goods are moving around faster and faster.

In terms of this development, Saxony-Anhalt has become a leading logistics hub in both Germany and Europe. Leipzig/Halle Airport, four motorways, the Elbe and the Mittelland Canal as well as a highly developed railway network provide a variety of transport solutions in every direction. This infrastructure is also valued by the major retail chains which have set up distribution centres in Saxony-Anhalt. The potential of the sector is huge. Logistics service providers are securing an increasingly large share of the business processes – from the quality control to the payments transactions.

Saxony-Anhalt is also a valued location for the automotive industry: almost every car contains at least one component that was made here. Over 260 companies from the automotive supply industry manufacture products in the federal state. In addition to the fields of drive technology and lightweight construction, the Institute for Competence in AutoMobility (IKAM) also focuses on the key pioneering technology of electric mobility. The MAHREG Automotive Cluster ensures close networking between the worlds of industry and science.

The proximity to the leading automotive manufacturers, an optimum scientific infrastructure and sophisticated cluster management form the best possible framework conditions for companies in the automotive industry. In the area of logistics and mobility, the expertise of Saxony-Anhalt is certainly strong.

LOGISTICS IS MORE THAN STORAGE AND TRANSPORT



LUISA KITTNER
Project Manager
Logistics.Initiative Saxony-Anhalt

BEATE RICHTER
Senior Manager, Investment and Marketing
Corporation Saxony-Anhalt (IMG)

Beate Richter is a Senior Manager at the Investment and Marketing Corporation Saxony-Anhalt (IMG). She supports investors from the logistics sector and the automotive area. Luisa Knitter is a Project Manager at the Logistics Initiative Saxony-Anhalt. A discussion about a rapidly growing sector and its requirements.

Saxony-Anhalt is centrally located in both Germany and Europe. That means it's a dream location for logistics businesses, right?

BEATE RICHTER: Its favourable geographical location is indeed one of the reasons why Saxony-Anhalt has become one of the most sought-after logistics regions in Germany. The integration of road, waterway, rail and air transport in our federal state is superb. This means short and fast journeys to both markets and customers. Furthermore, Saxony-Anhalt also has a strong research infrastructure in the field of logistics, which is appreciated by investors such as Hermes Fulfilment, arvato and Radial.

How has the logistics sector changed in recent years?

BEATE RICHTER: The logistics sector is now one of the strongest industrial sectors in Germany – in fact, according to the Logistics Performance Index, we are the world leaders of the logistics industry. Due to the rapidly growing area of e-commerce, new distribution centres are required. These days, logistics is about much more than transport and storage. The industry 4.0 is also having an impact here in the form of cutting edge IT systems, high levels of automation and leaner processes. Manufacturing companies are increasingly focusing on their core competencies and outsourcing work. Logistics service providers are therefore becoming increasingly responsible for value-added services such as pre-assembly, finishing and repair services.

What support does the federal state of Saxony-Anhalt provide to logistics companies?

LUISA KITTNER: The Logistics.Initiative is a marketing platform which helps companies to find the logistics solution that suits their needs. In this respect, in collaboration with cooperation partners from the worlds of research and science, new logistics solutions can be developed and alternatives can be assessed and compared.

However, the initiative not only engages with the interests of the logistics service providers, but also those of the users and operators of logistics services. We are networking the various sectors via logistics and strengthening the transfer of technology.

What role does the automotive sector play in Saxony-Anhalt?

BEATE RICHTER: With Volkswagen, BMW and Porsche on our doorstep, above all it is suppliers from the areas of metal and plastics that have chosen to set up here in our federal state.

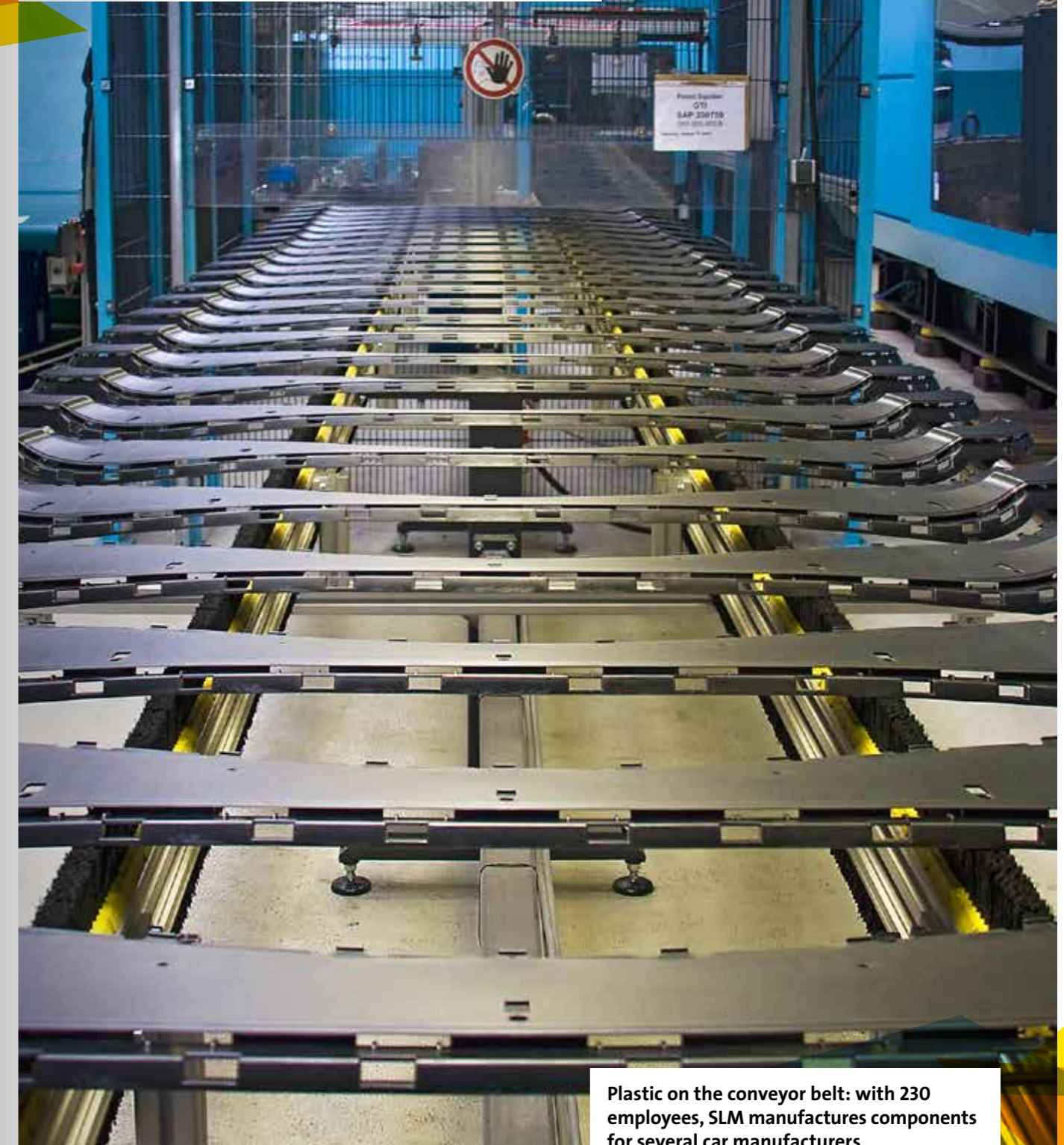
Some smaller companies have also been successful in the niche area of specialist vehicles, and have a high degree of flexibility and innovation.

With several universities and institutes, our federal state also has core expertise in the fields of high-performance composites, plastics technology and lightweight construction. In this respect, looking into the future of electric mobility, new possibilities are also set to arise for the automotive industry in Saxony-Anhalt.

www.invest-in-saxony-anhalt.com/logistics

SUCCESS CAST FROM ONE SOURCE

SLM FROM OEBISFELDE SUPPLIES THE AUTOMOTIVE INDUSTRY WITH PLASTIC COMPONENTS



Plastic on the conveyor belt: with 230 employees, SLM manufactures components for several car manufacturers.



Over 50 injection moulding machines produce large and small plastic parts.

It all began with seven machines and five employees. When Thomas Brusch founded his company in 1998, he was still a student. His first customer was Volkswagen for whom he manufactured plastic components for the Golf 4.

JUST AS ONE VW GOLF EVOLVES FROM ONE GENERATION TO THE NEXT, the same can be said for Thomas Brusch and his company SLM-Kunststofftechnik GmbH. The company that originally had just seven injection moulding machines now has more than 50, and instead of just five employees, the company is now home to an ambitious team of more than 230 employees. Today, the company SLM (which means “stereo lithography model construction”) stands for high-quality plastic components which are used in the automotive industry all over the world.

“Whether it is high-quality two-part components, fastening elements, ventilation grilles, cover parts or radiator grilles – our machines manufacture components in an exceptional range of variations, shapes and sizes. The smallest component weighs just five grams while the largest weighs 1.2 kilograms,” explains Managing Director Brusch. In addition to its key customers of Volkswagen, SLM also supplies Seat, Audi, BMW, Mercedes, Porsche and Lamborghini with its products. Furthermore, SLM is a systems supplier to a variety of international companies such as the automotive suppliers MAGNA, Faurecia, SMP and

REHAU. “To survive in a high-pressure industry, it is absolutely essential to stay at the cutting edge all the time. Therefore, in addition to providing our employees with regular training, our manufacturing machinery must consistently fulfil the latest standards in terms of the technical developments,” explains Thomas Brusch. In addition to injection moulding machines as well as multi-component and stack moulds of various sizes, a state-of-the-art ultrasonic vibration welding system is used. To reduce the logistics costs, SLM has also set up silos for plastic granulate directly on its business premises in Oebisfelde.

OEBISFELDE IS SITUATED IN THE BÖRDE DISTRICT OF THE STATE CAPITAL MAGDEBURG, and just 15 kilometres from the Volkswagen plant in Wolfsburg in Lower Saxony, which is one of the main reasons



A strong team: Production Manager Gunnar Kasprzyk and Managing Director Thomas Brusch.

why SLM decided to locate there – on an extensive site which has plenty of scope for future expansion.

EXPLOITING POTENTIAL and gaining new perspectives are things that have fascinated Thomas Brusch ever since his youth. It was clear to him from an early stage that he wanted to be his own boss. After completing an apprenticeship as an automotive mechanic, he studied technical business man-

agement. The 45-year-old wants to give the apprentices in his company a solid training that provides scope for further development. In addition to trades such as tool and processing mechanic, SLM also trains staff as office management specialists.

“An important part of the recipe for success of our family business is the long-term commitment of our employees and customers. That’s why we offer young people apprenticeships which offer good prospects

for a future job in our company and great conditions. In addition to this, we offer performance-related bonuses as well as the possibility for a four-week internship abroad,” explains the managing director.

THE FUTURE PROSPECTS OF SLM look good – proof of which is also provided by the new construction of a large storage facility.

www.slm-kunststofftechnik.de

MAHREG AUTOMOTIVE – THE SUPPLIER NETWORK

MAHREG Automotive is an innovation cluster which was founded in Saxony-Anhalt in 1999 and encompasses some 170 companies and research institutes. The primary task of the network is to strengthen the innovation and performance of regional suppliers. The goal of MAHREG is to gain added innovation through information and cooperation. This project is implemented through an intensive transfer of

knowledge and technology between the areas of science, service providers and manufacturers. On this basis, it is hoped that Saxony-Anhalt will become a leading centre for the development and production of lightweight vehicle components for alternative, energy-efficient propulsion systems.

www.mahreg.de

THE SIMULATION SPECIALISTS

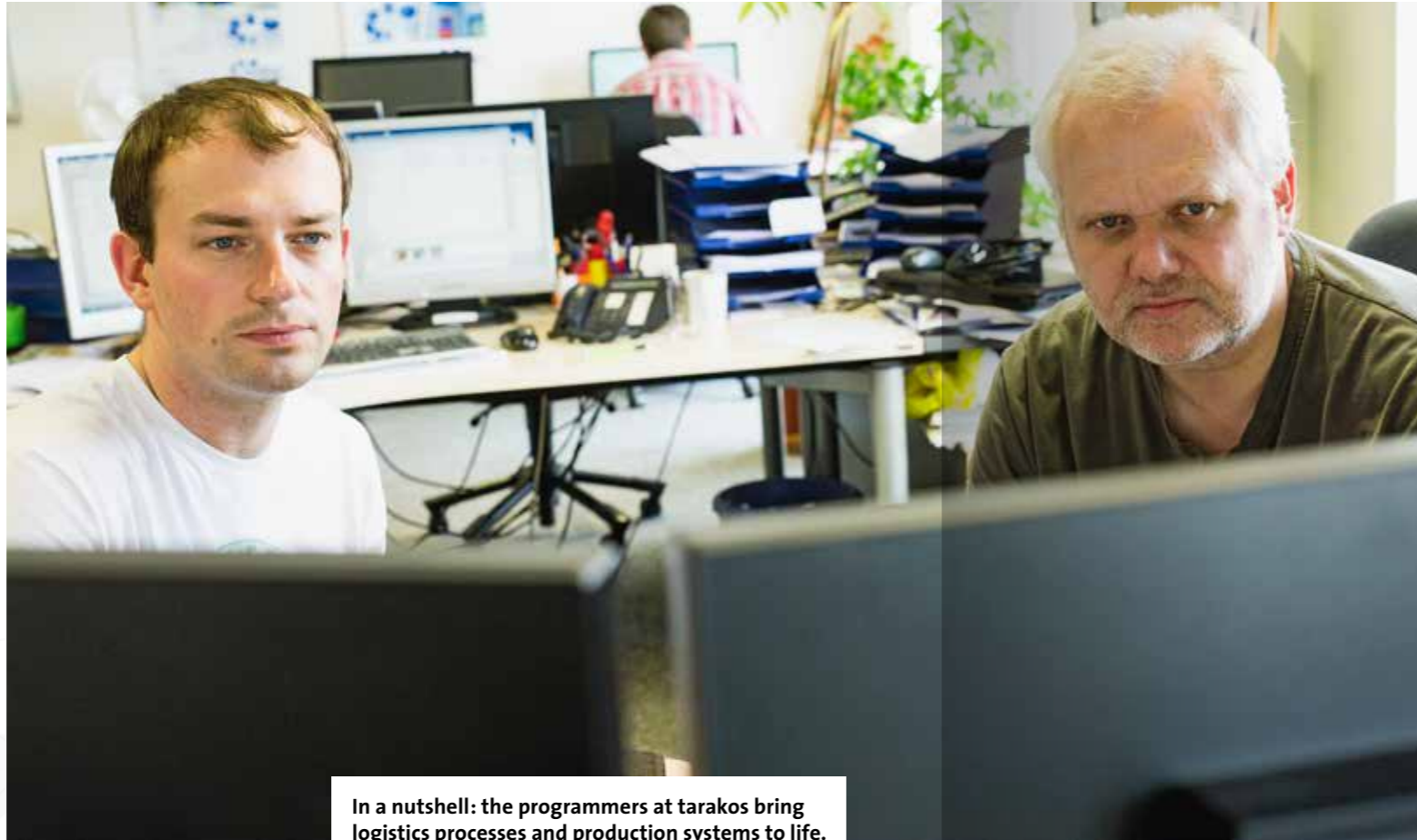
TARAKOS DEVELOPS PLANNING SOFTWARE FOR THE FIELDS OF PRODUCTION AND LOGISTICS



In the virtual world of tarakos, 3D glasses provide for perspective and foresight.

REQUESTED ...

HERBERT BEESTEN
 Managing Director,
 tarakos GmbH



In a nutshell: the programmers at tarakos bring logistics processes and production systems to life.



“Being innovative doesn’t have to mean creating something completely new. It can also mean making things more usable, available or cheaper.”

“We make movies for executives and decision-makers,” says Herbert Beesten with a laugh. The managing director of tarakos GmbH is sitting in a former warehouse that has been converted into an office building in the former Magdeburg trading port. When Herbert Beesten looks out of his window, he can see a disused crane. His company tarakos also offers cranes – on-screen cranes, however.

HERBERT BEESTEN AND HIS EMPLOYEES develop 3D software solutions for the virtual planning, simulation and visualisation of complex manufacturing processes. Before investors and companies build a production plant or logistics centre, they can simulate the new facility with the software kit from tarakos. These days, a 3D visualisation process is pretty much indispensable before large projects are put into action. The benefits are clear: more accurate planning, superior production,

more safety and efficiency, lower energy costs. “Our software products are not hard-to-access, high-end applications for specialists. They are aimed specifically to the needs of SMEs. Their benefits range from effective operational use due to cost-effective acquisition and intuitive operation, through to simple integration into the users’ existing IT architecture. The program can be used after just a few hours of training. It’s a



kind of on-screen form of LEGO,” explains Herbert Beesten.

THE SOFTWARE KIT FROM TARAKOS contains industry-specific libraries with over 500 animated items that are used in the field of logistics and production such as robots, high racks, assembly lines, forklifts, boxes, stairs and, of course, people. Production lines, assembly lines or dispatch processes can be digitally mapped using “drag and drop” without difficulty and in considerable variety. A task, a speed, or a cycle time can be added to each module. The entire process is finally played back in a video – either from bird’s eye view or from an on-the-ground perspective. With 3D glasses, the virtual scenarios can also be impressively “flown through”.

Visualised and “walk-in” processes such as these are becoming increasingly decisive to the question of whether a project is realised or drops off the agenda. The technology enables the risk of technical and business planning errors to be significantly reduced. “Our customers don’t just come from the conventional sector of production and logistics. Training

companies, manufacturers of conveyor technology and planners are also among the users. Close contact with our customers is important to us. With training and intensive consultations, we solve the problems encountered and therefore highlight the possibilities for optimisation,” explains the managing director. Tarakos’ customers are as varied as the possible applications of the visualisation

VIRTUAL REALITY (VR)

Virtual reality is the representation and simultaneous perception of reality and its physical attributes in a real-time, computer-generated, interactive virtual environment. The term “virtual reality” was coined by the author Damien Broderick in his 1982 science fiction novel “The Judas Mandala”. When creating a virtual world, you can define certain requirements that should be met, such as plausibility, interactivity and fidelity.

software: automotive manufacturers such as Volkswagen, BMW and Daimler and businesses such as Würth, Siemens and IKEA. This means, of course, that the software isn't just used in Germany, but also in countries such as the USA, China and Dubai. "Foreign business accounts for around 30 percent of turnover. The demand for our products is particularly high in China," explains Beesten.

Yet it is not just major corporations that use the software from tarakos – it is especially popular with medium-sized companies. German kitchens firm Burger Küchenmöbel GmbH, for instance, planned its new production facility with the help of the program.

A stone's throw from Herbert Beesten's office in the so-called



The simulations by tarakos enable highly detailed planning.

"Science Port" are the headquarters of the Fraunhofer Institute for Factory Operation and Automation (IFF), which cooperates very closely with tarakos, something which is also true of the Department of Computational Visualistics at Otto von Guericke

University. "They solve problems for us, and we solve problems for them. Our customers benefit hugely from these collaborations. Magdeburg is home to employees with excellent levels of training and education, especially in the fields of computer visualisation

THE MAGDEBURG SCIENCE PORT

Together with the neighbouring Otto von Guericke University and the nearby University of Applied Sciences Magdeburg-Stendal, the Science Port is the centre for science and research in Magdeburg. Science and research facilities have settled in the former riverside trading port. In this respect, existing facilities have forged links with newly created facilities. Today, the Fraunhofer Institute for Factory Operation and Automation (IFF), the Max Planck Institute for the Dynamics of Complex Technical Systems and the "Experimental Factory", which is a research and transfer centre for applied research, are all located at the Science Port. In 2006, the Virtual Development and Training

Centre (VDTC) of the Fraunhofer Institute IFF, a cutting-edge research centre for virtual technologies with high-tech laboratories, opened. The conversion of two former grain silos into a "think tank" created new office space for innovative companies and research institutions. As part of the European Galileo project, the University of Magdeburg has set also up its "Development Laboratory and Test Field for Location and Communication in Transport and Logistics" in the Science Port.

www.wissenschaftshafen.de



On global demand: Managing director Herbert Beesten sells his software in China and Dubai.

and materials handling, and they bring their know-how into our product development," explains the native citizen of Münsterland. On starting his career as a young electrical engineer in the 1970s, in addition to other fields, Beesten spent a lot of time working with heat pumps. He is now a pioneer of the Industry 4.0 – a revolution towards digital production.

Beesten founded tarakos, a business which was originally based on the campus of the University of Magdeburg, in the year 2000. Today, the tarakos team consists of some 13 employees.

Herbert Beesten was born in 1953 – and these days, his thoughts frequently turn to his retirement and stepping down from his company. "Ensuring an

orderly transition is exceptionally important to me. I would prefer to retire gradually," explains the managing director. There is no shortage of potential investors for a possible takeover. Enquiries from China and the USA are already on the table. But Beesten doesn't intend to rush things – he wants tarakos to have clear future prospects. After all, he knows that before putting anything into action, the advance planning needs to be as meticulous as possible. Incidentally, the name tarakos comes from an opening in the game of chess – which for Herbert Beesten has led to success.

www.tarakos.de/en/

THE INDUSTRY 4.0

Following the ground-breaking invention of the steam engine by Thomas Newcomen, the development of assembly line work and the mechanisation of production by Henry Ford, and the advent of information technology by John Parson's first numerically-controlled machine, we are now in the midst of the fourth industrial revolution.

In the area of factory planning software, the vision of the Industry 4.0 is closely associated with the so-called "internet of things". The result of this is "intelligent digital factories" in which machines and devices can communicate with each other via the internet, and therefore improve the flow of materials, for example.

A SURE-FIRE SUCCESS

BRAND NEW SOLUTIONS FROM SAXONY-ANHALT

INSTITUTE FOR AUTOMATION AND COMMUNICATION | www.ifak.eu/en

In just ten years' time, accidents and traffic jams on Germany's roads may well be the exception. This is the conclusion of a mobility study by the Magdeburg Institute for Automation and Communication, ifak.

ifak has been completing research projects surrounding information and communication technology in various application domains since 1991. In this area, topics relating to traffic and assistance are some of its key focal points. At present, autonomous driving is an especially important topic. On behalf of the German Federal Ministry of the Interior, the ifak has completed a detailed investigation of the potential for automatic interaction between vehicles, infrastructure and data clouds: were it not for the absence of the necessary communication infrastructure and the limited awareness of road users, a lot more progress could have been made in this area by now.

THERMHEX WABEN GMBH | www.thermhex.com

Motor vehicles need to become lighter and lighter – but the price to pay shouldn't be too heavy. This approach is working in Halle (Saale): thanks to patented lightweight sandwich materials with honeycomb technology.

Above all else, the company ThermHex Waben GmbH convinces due to its inner values: its low-cost thermoplastic honeycomb cores made from polypropylene are used for vehicle interiors, rear parcel shelves and boot floors, as well as for the stiffening of sheet metal and fibre composite components. The honeycomb cores can now be manufactured in a continuous production process for the first time. A standard volume weight of 80 kilograms per cubic metre or less is possible – with a core thickness of between 3 and 30 millimetres.

AMBULANZ MOBILE GMBH & CO. KG | www.ambulanzmobile.eu

For those in need, rescue is combined with safety: among others, the Schönebeck company Ambulanz Mobile GmbH & Co. builds patient transport vehicles, ambulances and emergency paramedic vehicles. In many cases, they're the first on the scene.

As one of the biggest players in the sector, the company's 280-strong staff team delivers some 1,400 vehicles each year. Ambulanz Mobile manufactures its vehicles according to the customers' requirements and invests the majority of its innovative capabilities in improving driving safety – for both the patients and staff. In its tests, Ambulanz Mobile far exceeds the requirements of the industry standards of its own accord. It was also the first company to manufacture interior trim with recyclable materials and to integrate the blue lights technology directly into vehicle roof systems in the form of LED lights.

FASTER GROWTH

HOW BUSINESSES FROM SAXONY-ANHALT GET OFF THE GROUND

KILENDA



Kilenda was founded by Hendrik Scheuschner (left) and Patrick Trübe.

You grow with your job. The fact that children grow up so quickly brought two Magdeburg students to their business idea: as the first business to do so in Germany, they decided to rent clothing out for babies and toddlers. Since then, their company has grown rapidly.

Turning 100 into 3,000: the Kilenda online shop now offers this many products, many of which originate from organic production. More than 2,000 customers rent clothing here, which is conveniently sent to their home in the post. Kilenda takes as many as 100 orders per day and employs 15 members of staff in the areas of IT development, marketing and delivery. The work in the warehouse is facilitated by thousands of numbered shelves and a special computer program. The takeaway after two years: this is a company that intends to grow fast. | www.kilenda.de

The car as an expression of personality. It should be individual, exclusive and environmentally friendly. At the same time, the market is a racing circuit – with ever shorter development cycles for new products. With NERICON, manufacturers reach their destination more quickly.

The full name of the recently established engineering company from Gardelegen is "NERICON engineering & design". It has been designing functional components for prototypes, measurement and research vehicles since 2012. Its range of products includes passively-cooled full-LED headlamps as well as new gear selector concepts. It has forged a particularly sustainable partnership with Volkswagen, which originally opened its doors to the team during their studies at the University of Anhalt. Nericon is currently developing its very own 3D printer for 1:1 prototypes. | www.nericon.de

NERICON ENGINEERING & DESIGN



NERICON also created this study concept for an E-vehicle.

A NEW APPROACH TO BICYCLE CHAINS IN SAXONY-ANHALT THINGS PROGRESS WITH EASE

SCHINDELHAUER BIKES



A team which is turning more and more wheels.

There's no need to reinvent the wheel, right? Four Magdeburg students saw things differently. With toothed belts instead of bicycle chains and their own approach to cycling in terms of visual appeal, in the year 2009 they shook up the culture of urban cycling. They then cycled out and into the world.

Since then, the design of the Schindelhauer Bikes has received multiple awards. The team is growing steadily along with its range of products and services and worldwide dealer network. After all, in this smithy for high quality bicycles it's class that counts, not mass-appeal – and from many perspectives. Schindelhauer bikes are light, fast, beautiful and technically sophisticated. Purism on two wheels. Anything that is second rate loses all rank and is eliminated. The result is world class. And apart from its Berlin workshop, the company remains 100% based in Zerbst. | www.schindelhauerbikes.com

More performance, more comfort and the internet on the steering wheel: the additional in-car components that make functions such as these possible result in added weight and more energy consumption – which means higher emissions. Manufacturers are therefore turning to lightweight constructions.

The Fraunhofer Institute for Applied Polymer Research in Schkopau is working together with partners from the world of industry on materials for polymer-based lightweight constructions. The idea: high-performance plastics replace metal – they are just as robust, but considerably lighter. The focus is on fibreglass and carbon composite plastics. The goal is to create innovative materials that can be mass-produced on a cost-effective basis. On this basis, at the PAZ, customers are able to access systems, all the way from the laboratory to the pilot scale. | www.polymer-pilotanlagen.de/en

FRAUNHOFER INSTITUTE FOR APPLIED POLYMER RESEARCH (PAZ)



A focus of the research in Schkopau: forming, draping, pressing and injection moulding from one single source.

SUCCESS IN NUMBERS:
DID YOU KNOW?

46,000

people work in the area of transport and storage in Saxony-Anhalt.

In Saxony-Anhalt, 5 ports and numerous trans-shipment points connect some

600

kilometres of inland waterways.

In the last ten years, turnover in the manufacturing of cars and car components has increased by

34%

and the number of employees by

38%

With **3,100** km of track, the federal state has one of the most highly developed rail networks in the world.

6 academic departments at the universities in the federal state educate the logistics experts of tomorrow.

Over **260** companies from the automotive supply industry have settled in the federal state.

Over **11.000** kilometres of excellent roads are available for goods transport in the federal state.

CONTACTS:

EXPERTISE IN RESEARCH AND NETWORKS

UNIVERSITIES AND NON- UNIVERSITY RESEARCH ORGANISATIONS

Otto von Guericke University Magdeburg (OvGU):
 Faculty of Process and Systems Engineering | www.vst.ovgu.de
 Faculty of Mechanical Engineering | www.fmb.ovgu.de
 Institute of Logistics and Material Flow Technology | www.ilm.ovgu.de
 Faculty of Electrical Engineering and Information Technology | www.iesy.ovgu.de; www.eit.ovgu.de
 Faculty of Computer Science | www.cs.uni-magdeburg.de

Martin Luther University Halle-Wittenberg (MLU):
 Chair of Production and Logistics | www.prodlog.wiwi.uni-halle.de

Harz University of Applied Sciences | www.hs-harz.de

Magdeburg-Stendal University of Applied Sciences | www.hs-magdeburg.de

Anhalt University of Applied Sciences | www.hs-anhalt.de

Merseburg University of Applied Sciences | www.hs-merseburg.de

Max Planck Institute for Dynamic Complex Technical Systems, Magdeburg | www.mpi-magdeburg.mpg.de

Fraunhofer Institute for Factory Operation and Automation (IFF), Magdeburg | www.iff.fraunhofer.de

Fraunhofer Institute for the Microstructure of Active Agents and Systems IMWS, Halle | www.imws.fraunhofer.de

TRANSFER AND RESEARCH CENTRES

Institute for AutoMobility Expertise GmbH (IKAM), OvGU | www.ikam-md.de

Institute for Automation and Communication e.V. (ifak) | www.ifak.eu

WTZ Roßlau gGmbH | www.wtz.de

Industrial Laboratory for Functionally-optimised Lightweight Design, Magdeburg-Stendal University of Applied Sciences | www.funktionsoptimierter-leichtbau.de

Polymer Competence Centre Merseburg (KKZ) | www.kkz-halle-merseburg.de

Fraunhofer Institute for Applied Polymer Research (PAZ) | www.polymer-pilotanlagen.de

Fuel Cell Laboratory and Test Stations and Battery Test Stations, OvGU | www.feit.ovgu.de

GALILEO Test Field for Transport Saxony-Anhalt, OvGU | www.galileo.ovgu.de

Satellite Navigation Saxony-Anhalt e.V. (Sanasa e.V.) | www.satnav-forum.de

Mobility Data Marketplace (MDM) | www.mdm-portal.de

CLUSTERS AND NETWORKS

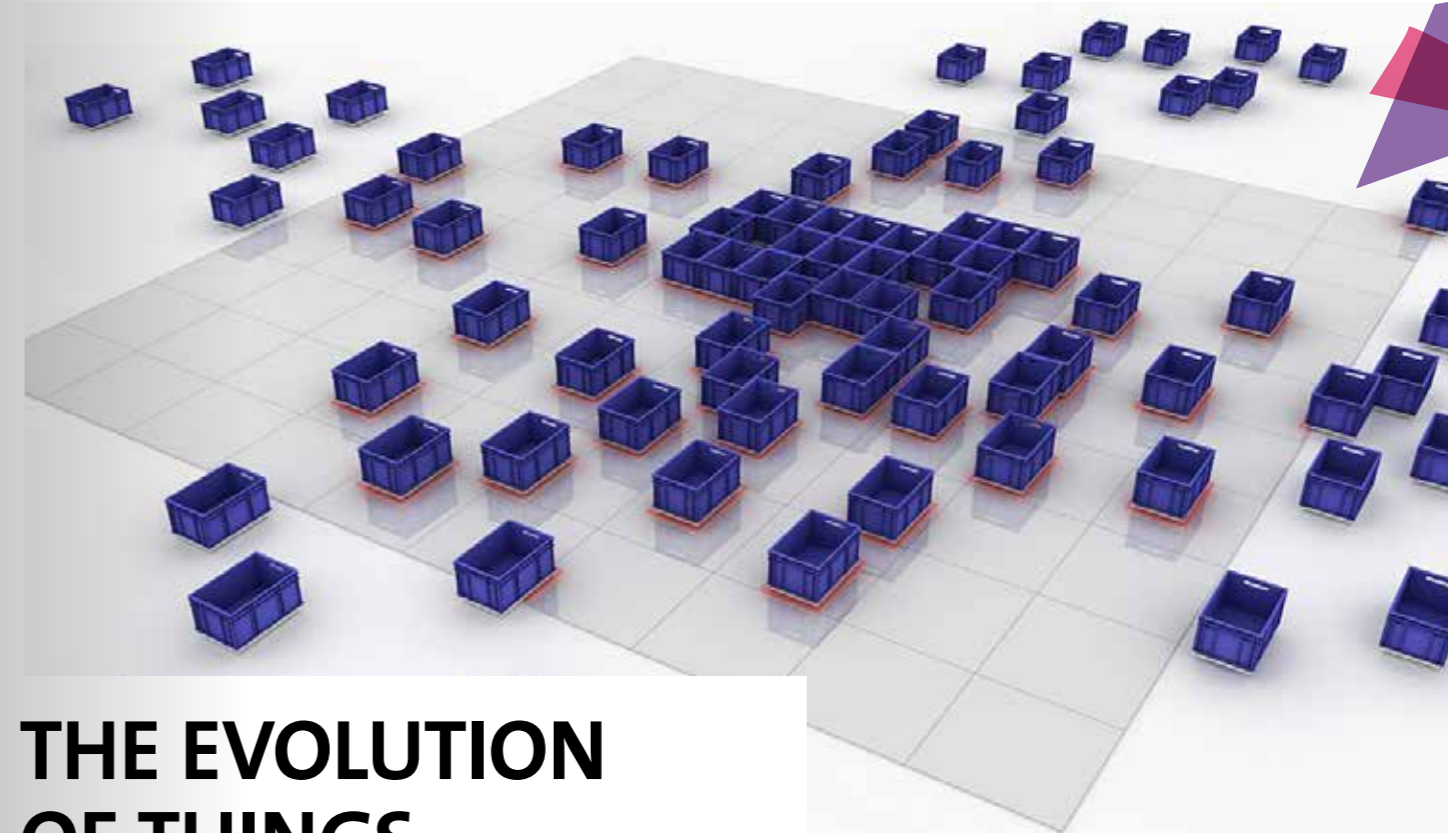
Network Competence in Mobility (COMO) – OvGU | www.automotive.ovgu.de/Projekte/Competence+in+Mobility.html | www.emv.ovgu.de

MAHREG Automotive | www.mahreg.de

R&D Network for Logistics Assistance | www.logistik.exfa.de

BiS-Net Cooperation Network for Fuel Cells in Series | www.ikam-md.de/de/forschung/projekte/projekt-bis-net-brennstoffzellen-in-serie

Knowledge Network for Manufacturing Technology and Quality Assurance (WFQ) | www.wfq-md.de



Fluid logistics could revolutionise logistics processes worldwide.

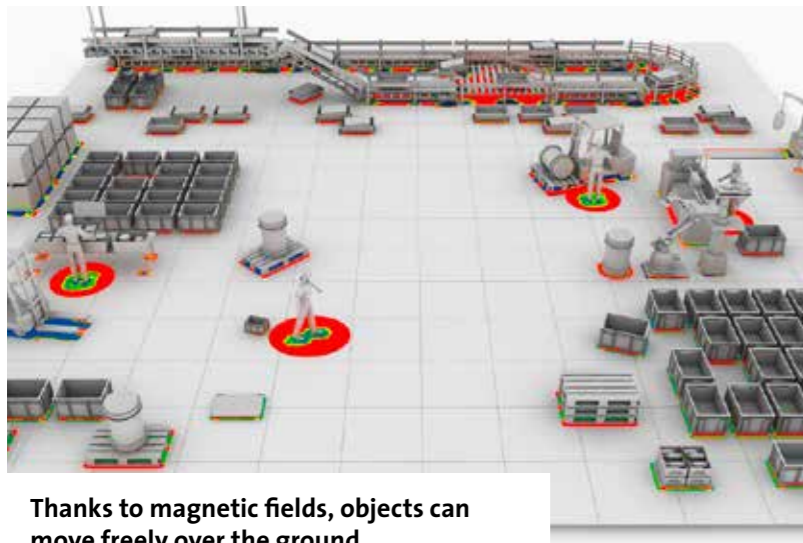
THE EVOLUTION OF THINGS

THE MAGDEBURG-BASED COMPANY BENJAMIN GMBH WANTS TO BREAK UP RIGID PATTERNS WITH “FLUID LOGISTICS”

Lars Bergmann thinks quickly and in every direction. And logistics and production processes should be equally as flexible and dynamic in the future: at benjamin GmbH, he is working on a technical solution with which objects in warehouses can be organised and processes parallelised: “fluid logistics”.

IT SOUNDS LIKE SCIENCE FICTION: any number of transport systems moving freely over the ground. Everything happens with pinpoint accuracy, simultaneously, in all directions as well as individually and in real time, adapted to the respective requirement. At the airport, everyone is reunited with their suitcase immediately, at a large mail-order company, all orders are processed simultaneously. Waiting patiently somewhere in line could soon be seriously out of fashion.

“THIS ISN’T PIE-IN-THE-SKY THINKING”, says company founder Lars Bergmann confidently. But isn’t it all a bit chaotic? “No, it’s more like an ant heap: on the contrary, it is highly efficient.” The economist and business IT specialist smiles self-confidently. He spent years experimenting with coils and magnets in his basement. He read up on everything he didn’t know. And all because, as a student, he refused to settle for the rigid solutions of his professor. At that time a seminar would be about optimising production processes. Today, the citizen of Magdeburg has a quick-answer: fluid logistics. It has the potential to revolutionise automatic processes worldwide – from the logistics company to storage depots, to production facilities and department stores, through to completely new service offerings in everyday life.



Thanks to magnetic fields, objects can move freely over the ground.



Until now, logistics processes have tended to be in fixed patterns.

The basic principle is similar to a coin which magically moves across a table top because of a magnet underneath. The company benjamin GmbH solves this with electromagnetic drive modules which are laid as tiles either in or on the floor. These generate magnetic fields whose size, speed and intensity are in turn controlled by a software package. A kind of central divine eye complements the “crowd intelligence” of the differing objects. It is in this context that Bergmann's team of 14 members of staff have spent years looking for the right material flow algorithms.

THE SYSTEM TRANSPORTS OBJECTS OF ANY SIZE PRECISELY and without mutual contact, responding to a changed environment in real time. It is significantly faster, lower cost and more targeted. Large loads do not present any problem. Thanks to the parallelism of the processes, key factory areas such as storage facilities, conveying and production systems can merge together.

Scientists from ESA Darmstadt, FH Frankfurt and TU Braunschweig were also included in the development. A wide consortium of sponsors is providing the ambitious project with financial support. Founded

in 2008, benjamin GmbH has meanwhile organised its invention to be patented worldwide. Together with leading industrial partners such as Fraport AG, the operator of Frankfurt airport, the company is currently working on preparing its system for the market. This remains somewhat shrouded in secrecy, however. The interest of the automotive, chemical and logistics industry has already been awakened, however. In the areas of intralogistics and production, the Magdeburg-based business are continuing to search for strategic cooperation partners.

www.benjamin-gmbh.de



Lars Bergmann is the Director of Magdeburg-based benjamin GmbH.

SUCCESS THAT'S MADE IN SAXONY-ANHALT



IFA ROTORION continues to drive international success.

Quality that's “made in Haldensleben” – a guarantee which enables drivers a great journey all over the world. After all, the company IFA ROTORION Holding GmbH works with almost all of the well-known automotive manufacturers. As a supplier of drive and cardan shafts, it is the market leader in both Europe and North America.

FELIX VON NATHUSIUS GREW INTO THE INTERNATIONAL SUCCESS OF HIS COMPANY, so to speak: in 2014, he took over the chairmanship of executive team from his father, Heinrich. He explains what has made the products of IFA into hit exports as follows: “When our customers develop new vehicles, we work very closely with them from an early stage onwards. To build the perfect drive shaft, we have to understand the vehicle peripherals.”

LIGHTWEIGHT PRODUCTS ARE ON THE MARCH

These days, cars have to be effective and fuel-efficient. That's why the European premium manu-

facturers in particular choose to rely on customised solutions from IFA. In addition to the German companies Volkswagen, Daimler, Audi, Porsche and BMW, the IFA's customers include Volvo, Ferrari and Jaguar Land Rover. In the North American market, Ford, General Motors and Chrysler rely on the successful shafts from Haldensleben, not to mention Hyundai in the Asian market.

The prevailing trend in the corporate group is “world-wards”: the engineers work in international project teams; in addition to the main plant in Haldensleben, locations in South Carolina and Shanghai enable direct proximity to the customer. “We overcome time zones and borders with streamlined, efficient processes,” explains von Nathusius.

THE BIG GOAL: by 2025, IFA wants to become the leading industrial company in Central Germany and makes its way into the rankings of top 100 of global automotive suppliers. “More positive headlines will follow” is something that von Nathusius is certain of.

www.ifa-group.com/en/

BIRGIT GRÜNTHAL
Consultant for funding
matters of business customers
at the Investment Bank of
Saxony-Anhalt



SUPPORT FOR SUPPORTERS

Your own ideas may be the best in the world. But those who try to hit the heights too fast can frequently experience turbulence in the skies. Experienced co-pilots are sometimes worth their weight in gold. That's why the Investment Bank Saxony-Anhalt supports companies which play it safe and are supported by experts – with its advice programme for companies.

In which situations can companies benefit from advice?

BIRGIT GRÜNTHAL: Advice makes sense in many areas. For example, if a company decides it wants to expand abroad. A consultant can then develop country-specific marketing strategies, examine the respective market structures or relate their specialist knowledge on the topic of exports.

Does the Investment Bank offer financial support for the consultations?

BIRGIT GRÜNTHAL: Yes, very much so. In addition to internationalisation, we also offer financial support for consulting in the areas of marketing, organisational optimisation, personnel or risk management and much more. The focus is always on the specific problems of the respective company management. This might be the improvement of environmental

protection or the strengthening of the company's own innovation potential. We also help with upcoming business ownership succession arrangements.

Who is able to benefit from the support funding?

BIRGIT GRÜNTHAL: We are aware that, above all, it is small and medium-sized companies which rely on the help of external consultants. That is why we focus on them. Freelancers who do business in Saxony-Anhalt are also invited to make an application.

How, exactly, can the Investment Bank help?

BIRGIT GRÜNTHAL: We finance specific projects on a pro-rata basis. We can contribute up to 50 percent of the total outlay. However, only a maximum of 15 days' work is eligible for subsidy and a maximum of 300 Euros worth of work per day. Companies are also welcome to submit several applications for the same area of advice though.

What else is there to consider?

BIRGIT GRÜNTHAL: We require an up-to-date analysis of the current situation which highlights the respective weak points. The chosen supporter should prepare a plausible consultation plan in advance. We look forward to being able to explain all of the options to you on an individual basis.

INNOVATIVE SUCCESS STORIES



AURA

AUSZEICHNUNG FÜR
HERAUSRAGENDES
UNTERNEHMERISCHES WIRKEN
IN SACHSEN-ANHALT

WINNER OF THE AURA 2015

RELAXDAYS GMBH

TOPIC: Internet trading with social responsibility

When hiring staff to the 70 positions at the Halle-based company Relaxdays GmbH, the visionary managing director has taken social criteria into account. His business offers some 3,000 items for the home, garden and leisure through an intelligent, digital warehouse: the stock can be viewed at any time in the B2B area of the web shop, and additional retailers such as Ebay or Amazon are directly connected via an "electronic data interchange" (EDI).

www.relaxdays.de

3RD PLACE IN THE BESTFORM AWARD 2013

HOSS PR UND HALLESCHER VERKEHRS-AG

TOPIC: The "Technical Line 5" in Halle (Saale)

The companies Hoss PR Agentur für Kommunikation und Öffentlichkeitsarbeit GmbH (Hoss PR Agency for Communication and Public Relations) and Hallesche Verkehrs AG were honoured for their concept for the "Technical Line 5": the historic tram line connects numerous companies and technical facilities. A wide-ranging programme brought the technology region of Halle-Saale into the public consciousness and initiated collaborations.

www.hosspr.de



**BEST
FORM**

MEHR /// WERT /// AWARD
FÜR KREATIVE IDEEN



**HUGO
JUNKERS
PREIS**

FÜR FORSCHUNG
UND INNOVATION
AUS SACHSEN-ANHALT

2ND PLACE IN THE HUGO JUNKERS PRIZE 2015

"THE MOST INNOVATIVE APPLIED RESEARCH PROJECTS"

ASSOCIATION FOR ROTORDYNAMIC RESEARCH

TOPIC: EMD simulation software

The faster the rotors run, the more restlessly they vibrate: something that can be a problem – from turbochargers in internal combustion engines through to gas turbines weighing up to 350 tonnes. However, the simulation software EMD is able to predict vibrations safely and realistically, and can also analyse the behaviour of other dynamic systems such as centrifuges or gearboxes.

www.rdu-gmbh.de/en

ATTRACTIVE:

Saxony-Anhalt's **moderate cost structure** ensures competitive advantages for every investor: At approx. 13 Euros the average price per square metre for a fully developed industrial zone is substantially below the German average. The rate of funding that is available to support wage costs amounts to up to 10% of the specified wage costs.

OPTIMAL:

Saxony-Anhalt has the **highest funding rates in Germany**. Small companies are funded up to 30%, medium-sized ones up to 20% and large ones up to 10%.

FAST:

The IMG acts as a one-stop agency; **fast decision-making channels and realisation periods** will facilitate your market entry in Saxony-Anhalt.

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Our support in the **search for a site**, in **funding and financing**, in **dealing with public authorities**, and **project realisation** is free of charge for you, and is treated with absolute confidentiality. Allow yourself to be assisted by IMG Saxony-Anhalt, one of the **best regional economic development agencies in Western Europe**, which was once again the recipient of the **"Top Investment Promotion Agency Award"** of Conway Data Inc. in 2016.