

STAR COOPERATION®

Your Partners in Excellence

THINKING BEYOND TRENDS

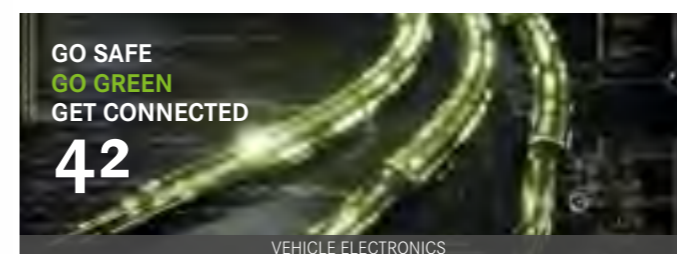
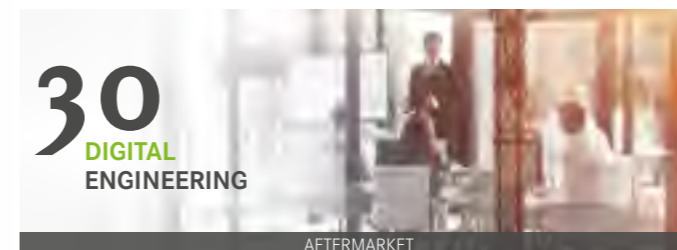
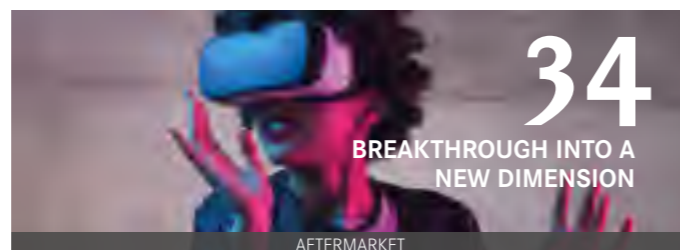
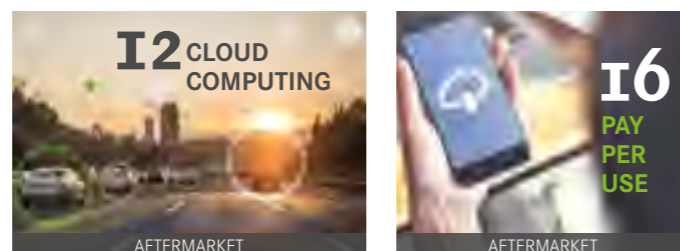
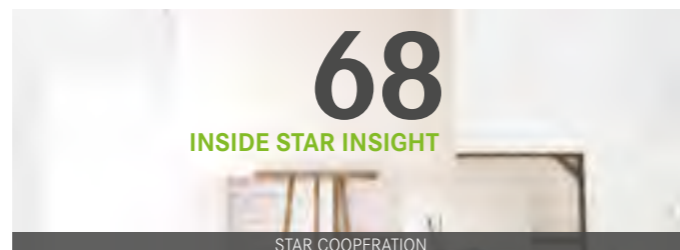
SUCCESS IN 2017
A LOOK BACK AT 1997

MEDIA | LOGISTICS | CONSULTING | IT | ENGINEERING | ELECTRONICS

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TRENDSETTERS

PROFESSOR ALFRED NEHER & SOFIA NEHER



» TRENDSETTERS ARE THOSE WHO MAKE THE IMPOSSIBLE POSSIBLE. «

PREFACE. Team spirit and solidarity are the nuts and bolts of any successful company, friendship or business relationship. Working together is the only way to achieve great things and enjoy long-term success. However, community spirit also means coming together through the lows, be it in professional or private matters.

Things that prove successful on a wider scale can also be translated for the smaller scale. A company can therefore only be as strong as its entire team. Ever since STAR COOPERATION was established, we have internalized this mantra, passing it on to all our customers and colleagues for the past 20 years.

And it has paid off. Now, we don't just move with the times, we stay one step ahead of the trends. We have a twenty-year history of thinking ahead of the game - a skill that will also continue to drive our future. We will be faced with countless issues and questions over the next few months and years: What opportunities will come with digitalization? What will our future look like in a virtual world? How will we help our customers to achieve even more success - be it with our expertise in the fields of marketing, automation, supply chain, visibility, digital engineering, IT, aftermarket, or an array of other areas? How do we make the most of prospects presented by the Internet of Things, autonomous driving, and artificial intelligence?

Our STARS are already working on tomorrow's issues. Read our 2017 Annual Report to find out what they're up to!

The past twelve months have once again demonstrated that innovation and a diverse array of ideas are not only well received but also reflect on our company. We are so grateful for this trust and would like to thank you for our success this year on behalf of everyone involved. We would also like to thank you for being part of this incredible team! After all, strong teams make life a whole lot easier.

We hope you enjoy reading our report and wish you all the best,
Professor Alfred Neher and Sofia Neher

Together we can!



THE POWER OF SYNERGY

WE USE OUR INTERDISCIPLINARY NETWORK OF EXPERTISE TO CREATE UNIQUE SYSTEM SOLUTIONS.

The best solutions stem from strong working relationships. At STAR COOPERATION, our experts work in interdisciplinary teams. And every one of them focuses on the challenges and needs of our clients. We combine our expertise to form networks and consolidate our power. We work as a team and pool our knowledge to create comprehensive interdisciplinary solutions. We assume responsibility for ourselves and the company as a whole, always adhering to the adage:

All for one and one for all.

2017

Tools for measurement and simulation technology, control systems; workshop and production equipment, energy supply, and energy management are covered by our electronics unit.

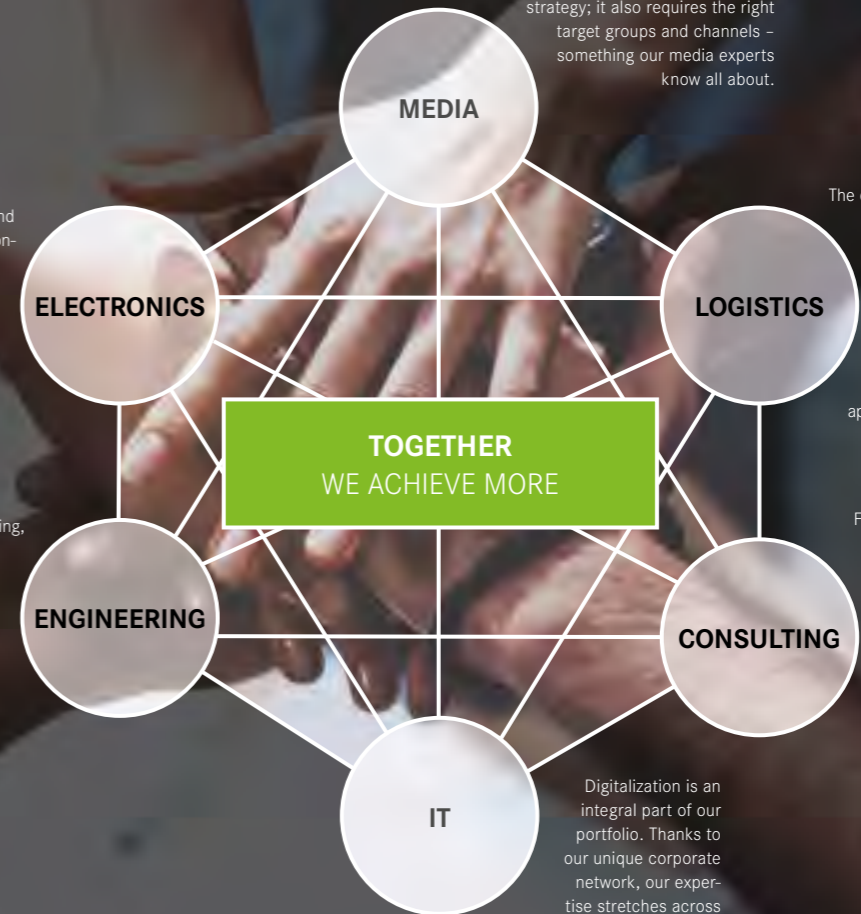
As a partner for engineering, we provide professional specialist solutions for the entire value creation chain in an effort to have a positive impact on that magic triangle of time, cost, and quality.

Successful communication doesn't just call for a strong communication strategy; it also requires the right target groups and channels – something our media experts know all about.

The challenges facing the field of logistics are becoming increasingly complex – both within the individual steps of the process and in the supply chain as a whole: Our logistics unit's expertise ensures a future-proof approach and is focused on our core business.

From marketing advice and specialist training through rolling out support for diagnostic systems: Our expert consultants approach challenges as individuals and come up with fully fledged solutions.

Digitalization is an integral part of our portfolio. Thanks to our unique corporate network, our expertise stretches across a number of industries. Our IT experts combine this knowledge with innovative tools for successful projects.



CITY COUNTRY STAR

» WORKING TOGETHER
AROUND THE **WORLD** «

THE STARS OF TOMORROW

» SPOTLIGHT ON BERLIN «

Performance marketing in Berlin: Working on search engine performance, improving conversion rates, managing campaigns and marketing plans, and monitoring and optimizing budgets – these measures have been helping to boost store traffic for not one but multiple STAR clients. The Berlin office is based in a former church in one of the city's hippest neighborhoods. And as its success grows, so, too, does its team: To keep driving digitalization in this lively capital city, we are already on the lookout for the STARS of tomorrow.

VENI, VIDI, **VANCE**

» SPOTLIGHT ON ATLANTA «

For our Atlanta office, 2017 marked the move into a new independently-run warehouse building. In terms of numbers, this means 11,185 square meters, 13 loading ramps, at least 3,050 rack locations, and over 2,200 stock keeping units. Pretty hard to envision, right? If you want to picture it, imagine a building the size of 1.6 soccer fields. A total of 30 full-time STARS cover a collective total of some 514,290 steps a day, picking at least 17,200 items from our shelves. Still can't wrap your head around it? Then why not pay a visit and see it for yourself!

DRIVING CHINA'S ECONOMY

» SPOTLIGHT ON SHANGHAI «

STAR has an office in the heart of this city, which is home to some 15 million people. Here, STAR works for one of China's leading automotive OEMs, covering the fields of development for powertrains, electrics/electronics, body and full vehicle, as well as technical project management and strategy. The framework agreement with the client has now been extended, leading to an expansion at the office. The area is doubling to 220 m² to mirror the new project offices, which have also doubled under the new framework agreement. More work and more space also means more staff. Around 20 new employees joined in 2017, with the team keen to crack the 50-employee milestone in 2018. Eleven new STARS are therefore set to start a new adventure in Shanghai in the near future.

THE RECIPE FOR THE **PERFECT** WAREHOUSE

» SPOTLIGHT ON KORNWESTHEIM «

Take an empty 6,000 m² hall, 25 enthusiastic professionals, 118 tons of steel and leave to stew for eight weeks. Then add 1,600 tons of warehouse goods for 5,000,000 PS and what do you have? The recipe for the perfect tire warehouse in Kornwestheim! The warehouse is home to 100,000 tires waiting to be mounted to wheels and then to a test vehicle. The warehouse's close proximity to Heimsheim has allowed for easy cooperation with our workshop there. And thanks to a team of STARS who know exactly what counts when it comes to storing, picking, and dealing with the logistics for premium wheels and tires, the warehouse is running without a hitch.

- Böblingen
- Berlin**
- Fellbach
- Frankfurt
- Göppingen
- Heimsheim
- Karlsruhe
- Kornwestheim**
- Ludwigsburg
- Munich
- Neu-Ulm
- Obertürkheim
- Sindelfingen
- Wolfsburg
- Atlanta**
- Barcelona
- Johannesburg
- Madrid
- Beijing
- Shanghai**
- Vance
- Zug

» EXPERT TRENDS IN THE AFTERMARKET «

CLOUD COMPUTING

» THE FUTURE'S ON CLOUD NINE «

Plenty of companies are lagging behind when it comes to future-proofing their IT infrastructure. At the moment, young start-ups tend to be the only companies exploring the field of cloud computing and establishing themselves in this area. However, this issue should be the focus of continuous improvement processes at each and every company, regardless of their size. This is a trend that cannot be stopped: The future is on the cloud.

Cloud computing is a general term that refers to the provision and use of IT infrastructure over the Internet. This includes things like software, processing power, and memory. Depending on the party providing the service and the users in question, we distinguish between different types of cloud. Public clouds are something that the majority of us probably now use for private purposes. These services are freely accessible to any Internet user. The most popular providers of this type of service include Google, Microsoft, and Amazon. The opposite of a public cloud is a private cloud. Businesses tend to prefer private clouds and operate these IT services themselves in order to ensure their data is safe and protected. Only employees are able to access data stored on a company's private cloud. If you mix both of these formats together, you get the latest trend in cloud technology: Hybrid clouds. In a hybrid cloud, special services are provided online by public providers, while applications that are critical to the company and data security remain within the company itself. The biggest advantage? If necessary, companies are able to save their own resources and benefit from the scalability and cost efficiency of a public cloud. They can leave their own IT infra-

structure as it is. At the same time, however, they enjoy the guaranteed data protection offered by a private cloud. Systems operated in the company's own data center have an interface to a secure cloud provided by a third party, enabling applications to be moved outside the company without the user actually noticing. Nevertheless, the safety of important data remains intact. The main goal when introducing hybrid clouds is always to make as few changes to current infrastructure as possible. Therefore, companies that are keen to move with the times and future-proof their business will have to switch to a hybrid cloud sooner or later. Likewise, we should also expect IT and programming skills to be essential for managers in the future as this expertise will enable them to tackle the complexity of technological challenges on a level playing field.

Here at STAR COOPERATION, we are well aware of the importance of IT issues when it comes to setting the course for a business and preparing it for the future. IT is a business enabler and plays a major role in ensuring that a project and even the entire company is a success.

CLOUD COMPUTING IS SET TO BECOME A BUSINESS ENABLER IN THE DIGITAL WORLD



» FULL SERVICE FOR ONLINE SALES «

Developing and launching an online order system is only the beginning. STAR therefore takes charge of the downstream processes as well, including application testing, reporting, process monitoring, manual and release letter preparation, and much more. This is why our client, a vehicle manufacturer from southern Germany, decided to work with STAR COOPERATION.

The online order system enables corporate clients to quickly and easily research genuine vehicle parts and order them whenever they're ready. It is there-

fore essential to make sure the system remains in safe hands and there are no half measures when it comes to quality. Six STARS work hard to ensure the quality of the application at all times, which results in increased online parts sales for the customer while also giving them more time to advance in other areas. After receiving a positive response from its markets and dealerships, and enjoying increased sales as a result, our client has relied on our expertise since 2010. In this time, STAR has transformed from a consultant to a full service provider.



OLIVER MESSER
MANAGING DIRECTOR
STAR SYSTEMS

» A company won't last long on the market without a strong IT environment – particularly in the era of digitalization. IT forms the basis for all necessary business applications, thus making it the foundation for corporate success. Our vision is to cultivate the best possible conditions for our customers to increase their effectiveness and productivity – be it with a hybrid cloud or on-premise solutions. «

USER EXPERIENCE

4.0 » HASSLE-FREE ORDERING EXPERIENCE «



Cutting the number of fax-based orders by 90%? This may sound like a dream for some, but for a STAR client in the pharmaceuticals industry this is now a reality after they decided to bring in STAR COOPERATION to tackle this challenge.

A mere 9 months ago, online orders could only be placed using various forms, and the online store for ordering products didn't even exist. A team of five STARS quickly got down to work, revising the existing code, revamping the corporate identity, and developing

new UX/UI and website functions, like a new ordering template. The project also covered researching and preparing content, selecting and editing images, and opening the B2C shop. The main challenges were implementing new interfaces and tackling the complexity of the ordering process, which included engineering the process logic and programming. And yet, all their hard work paid off: The ordering process is now automated, which significantly increases efficiency and puts a smile on the customer's face.



Six STARS, one job: To reposition the branding and strategy of our customer – a leading health care company – and establish it as a successful player on the market. So, did they manage it?

As a result of the takeover of an existing company, the team was under an incredible amount of time pressure. In just two months, they were expected to create a

new strategy and get it in place – all without neglecting quality (which goes without saying). It was then time for a branding overhaul followed by a makeover in time for the brand's appearance at the ESCRS trade fair (European Society of Cataract & Refractive Surgeons) using film and animation projects. The Media unit at STAR was tasked with providing technical support and consultancy services at the

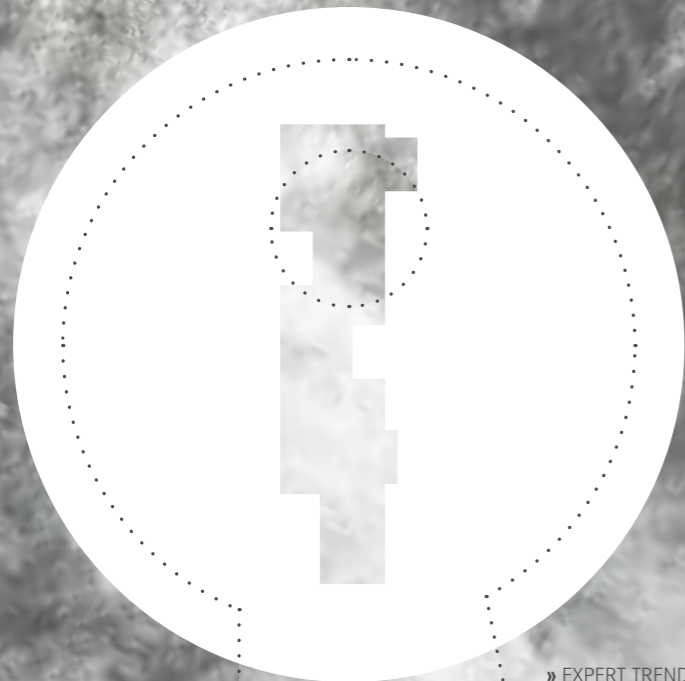
client's site in Lisbon. After receiving an overwhelmingly positive response from the client and both local and international colleagues, and successfully boosting traffic to the trade fair stand, the STARS are already working on the next projects. Plans are already in place for an appearance at ESCRS 2018.

TWO DECADES OF PROGRESS: ONCE REVOLUTIONARY – NOW ORDINARY



ORGANIZATION MADE EASY

With the launch of the electronic notebook, the "Palm", in 1996, organization reached a brand new dimension: The first ever personal digital assistant allowed users to store addresses and appointments using the device's special stylus. It was a revolution at the time. The Palm OS, which was developed especially for the device, ran on a Motorola Dragonball processor. Depending on the model, users could enjoy between 256 and 512 kilobytes of RAM. To put this into context, current smartphones rarely sugg: typically have, at minimum, 1 gigabyte of RAM, as well as 128 gigabytes or more of storage memory.



» EXPERT TRENDS IN THE AFTERMARKET «

PAY PER USE

» CONQUERING NEW CONCEPTS IN THE AFTERMARKET «

Most people imagine the cloud to be a fictitious place where they can store their data. However, most people aren't aware that there is a lot more to the cloud than initially meets the eye. One of the opportunities presented is Software as a Service, or SaaS for short. Under this concept, applications and services are available to rent as part of a cloud solution.



Customers pay a monthly fee and receive the software's full set of services in return. Providers of cloud-based applications offer their service both in browser-based form and as an offline version with restricted functionality, which bridges gaps should the user have no Internet connection. Regular security and functional updates keep operations running as smoothly as possible and provide the best possible protection for data.

The SaaS model makes day-to-day life at work more flexible, efficient, and cost-effective. Users can now work from anywhere, and project work can be completed quickly and without any hassle. Software rental also cuts costs needed for procurement, maintenance, and updates. This generates yet another advantage for companies: Because they are tied up in a fixed monthly amount, IT costs remain transparent and foreseeable at all times. What's more, users only have to pay for things they actually need.

These pay-per-use concepts are used in a wide array of fields, like in the music industry, for instance. Nowadays, you don't pay for a CD, you pay for streaming. There are also a number of different models available, from payment per song to monthly flat rates that remain the same, no matter how many songs you play or how long you stream for. This trend can be traced back to developments on the aftermarket (i.e. a product's usage phase) caused by digitalization. In the past, a product used to leave the factory and wouldn't return to the manufacturer until it broke. Back then, the focus was purely on technical issues. Nowadays, the spotlight is shifting more toward the customer experience. Factors like customer satisfaction, loyalty, recommendation rates, and up-selling are playing an increasingly important role. This change can be traced back to the fact that most modern products are now equipped with a chip. The buzzword

"Internet of Things" (IoT) is now a key aspect in developments. Now all it takes is a single glance for the manufacturer to find out where their product is, how it is being used, and where its customers spend their time. Digitalization has created a three-way relationship between the manufacturer, customer, and product. This relationship is having long-term effects on the aftermarket while also opening up new opportunities in the service sector. In the past, the automotive industry was used to launching a new product and then training After Sales staff in how to correctly deal with problems. These days, the process of the user employing the product is much more important than the product itself. Customers are interested in benefits, added value, and service. The automotive industry, in particular, has only just started to look more closely at this development. Nevertheless, new solutions are slowly but surely starting to take over the market. It won't be long before customers stop paying for a car and start paying for mobility instead – our scenario isn't far from reality.

As a service provider and consultant STAR COOPERATION supports its customers in confronting innovative concepts for sales and aftermarket in the face of an ever-evolving competitive environment.



DIGITAL COSTING MAESTROS

» ARTIFICIAL INTELLIGENCE FOR SPARE PARTS «

Exciting! A client in the automotive industry set STAR the task of developing a tool to ensure optimum aftermarket pricing for spare parts based on artificial intelligence. A wide array of factors had to be taken into account, such as the age of the vehicle containing the part, the vehicle's branding position, the intensity of competition, competitors' prices, and the materials used.

For certain items with high unit sales, this information can still be processed manually. Meanwhile, data for thousands of other items is locked against manual manipulation. An automatic approach

based on artificial intelligence aims to help create market-oriented prices. Three STARS developed an algorithm that uses methods from the fields of Big Data and artificial intelligence to develop independent pricing structures. The algorithm analyzes the pricing conditions for a particular part, looking for rules that form the basis of the pricing process. The "STAR model" algorithm is therefore able to generate the optimum price for every part. After an exceptionally short development process, the customer is now able to distribute proposed prices for a wide array of parts a lot quicker than it could if it were using an analog process. The customer and our STARS agree that approaches like the new algorithm are the future of pricing.

ANALYSES THAT DREAMS ARE MADE OF



» THE DIGITALIZATION OF SLEEP «

Our client – a bedding manufacturer from southwestern Germany – identified this potential and commissioned STAR to develop an app that would allow users to measure the quality of their sleep using a recording function for iOS and Android.

Our team of five experts got down to work so that the app could be successfully rolled out in the iOS App Store and the Google Play Store within just three months. As a result of their work, our client now has access to additional digital channels for tracking key user data. Users also enjoy added value, too, thanks to the link to the online store and contact with the retail team for expert advice.

INTELLIGENT REPORTING

The Retail Consulting department at STAR looks after retailers for a number of automotive manufacturers (OEMs). Thanks to this work, they now receive technical support through an online application. The aim of this solution is to support the extensive documentation of advisory services and boost retail performance.

What's more, the application also needed to be expandable so that it can meet evolving requirements in various projects. The obstacle? Because the customer has so many different projects, defining the scope of the project was initially very tricky. After all, the option of expansion called for a forward-thinking specification process. However, we managed to meet the customer's need for a digital dealership filing system by developing a unique online application and by analyzing and documenting requirements. As a result, we have been able to launch new projects at various OEMs and improve the efficiency of advisory processes.



» DIGITAL DOCUMENTATION FOR CONSULTANTS «

» Aftermarket is currently in a state of flux. Mechanical products are being replaced by smart devices. Product-oriented aftermarket services are transforming into a data-controlled digital service organization. The IoT, artificial intelligence, 3D printing and blockchain technology will have a fundamental impact on the aftermarket as we know it. «



NICOLAI STICKEL

GENERAL MANAGER STAR COOPERATION

» EXPERT TRENDS IN THE AFTERMARKET «

SIMPLY SMART

» ARTIFICIAL INTELLIGENCE ON THE RISE «

Refrigerators that can order food when supplies run low; elevators that are automatically called to the right floor when you leave your apartment door; blinds that can access weather data – the IoT (Internet of Things) is the word on everyone's lips at the moment. By creating networks of products, it can now offer a whole new level of comfort, security, or efficiency, depending on what the user needs. In this process, the customer's link to the digital world is of key importance. For manufacturers and service providers in various industries, digitalization opens the door to brand new ways to make users' lives easier.

Nowadays, products allow companies to form a digital link to their clients. The word you need to remember here is “data-fication”. However, this means that users now leave data trails wherever they go. In the B2B branch, for instance, this link takes the form of a machine that is connected to the cloud. As a result, the manufacturer is able to track when employees log in and whether the machine is vibrating or has any other faults, provided it is equipped with the requisite sensors. Collecting all this information creates a huge quantity of data, which can then be used to positive effect, thanks to use cases. Manufacturers are therefore able to invest in Big Data or blockchain technology to enhance their data with supplementary information. In this process, it is important to understand what other information may be of interest to customers. In the field of After Sales, the focus tends to be on offering customers predictive maintenance or predictive pricing services – models that have now become run-of-the-mill and are enjoying widespread acceptance. Manufacturers can therefore analyze typical early detection markers for machine faults so that these can be avoided in future. The more machines a manufacturer has for evaluation purposes, the more accurate its probability calculations, resulting in a form of swarm intelligence. As a result of these developments, manufacturers are able to proactively replace parts with relatively high levels of wear in good time and

thus increase equipment service life. Furthermore, this change opens up new service channels for customers.

This evolution is now moving one step forwards as a result of artificial intelligence. The first foray into this field occurred back in the 1950s, which resulted in an application known as machine learning. This approach is about providing machines with specific intelligent logical processes, which mirror the neural system in humans. Over the past few years, the field of IT has successfully expanded neural networks in computers. This is known as deep learning, as it involves many different nodes connecting over various layers. To begin with, there is an input factor. This could be a shadow, for instance, appearing in front of a car and scanned by sensors. On the first layer, the system has to decide whether this shadow is a living creature or not. If the answer is no, the car can keep moving. If it's yes, then the system has to decide whether it's an animal or a human. If there is a child on one side and a cat on the other, and the car cannot brake anymore, the next layer of the system has to decide to turn off in the direction that would protect the child. The aftermarket is also heavily influenced by an array of smart innovations. One technological trend is affecting aftermarket more than any other innovation to date: The Internet of Things is transforming analog products into smart devices. Specifically, this means that

the manufacturer remains linked to their sold products, providing them with real time information about how they are used by customers. The aftermarket is therefore leaving its traditionally reactive role and enjoying the unique opportunity of proactively accompanying customers through their day-to-day lives. Smart devices generate useful data that can be used to incredible effect. Information about when a user switches on a device and how long they use it for sheds light on the usage phase. Ambient information, such as temperature, noises, or geodata, are used as an input for new services like predictive maintenance. The data collected can often be used for further fields of application as an alternative source of income. For aftermarket organizations, this development is creating new business models with additional ways to generate profits. Artificial intelligence also has a major impact on key aspects – starting with short-term increases in sales through to the creation of new digital services. Alexa and Siri are slowly becoming part of customers' home lives: Aftermarket organizations are also using this voice recognition software as a successful channel of communication. The entire support process is voice-controlled. Chatbots are taking charge of communication with clients. Service platforms now cover an ever-increasing portion of the customer-relevant ecosystem of product usage. In concrete terms, this means that all services relevant for product usage are now available to customers on a 24/7

basis. These new technological options are transforming the role of a typical aftermarket organization. Reactive problem solvers are now becoming proactive partners during the usage phase – making them a driving source of value in the customer experience with significant profit potential for brands.

In order to offer customers integrated comprehensive solutions, STAR works with various software and technology partners in its efforts to develop applications based on artificial intelligence.

STAR has already done plenty of work in the field of artificial intelligence. Take the logistics process for parts requirements in various stages of the sales process, for instance: Artificial intelligence can be used to forecast how many windscreen wipers a dealership needs to keep in stock. When it comes to engineering, artificial intelligence is mainly used in virtual and augmented reality. IT plays a major role in this process, making sure concepts are technically feasible and mature enough for series production. The fact is that, like electrification, artificial intelligence will soon be found in all areas of life in an affordable and reliable form. Blockchain technology will also be used in the field of contracts, performance ratings, and qualifications – thus forming the future of recruitment.

Successful After Sales for the automobile industry from initial pricing to price optimization: STAR provides both strategic and operational support for After Sales pricing. The client is so happy with our work that they have decided to expand and extend the order to 2018 for the third year running.

On behalf of our client's senior management team, we assessed quality and analyzed the expansion of the company's business. An order for C-parts, i.e. screws, bolts, and washers, saw yet another area of work outsourced to STAR. Our client was so impressed by the STARS' efforts that they have placed another order for 2018.



IMPRESSIVE PERFORMANCE

» STRATEGIC PRICING IN AFTER SALES «

MAXIMUM TRANSPARENCY

» TAILOR-MADE BUSINESS INTELLIGENCE TOOL «

» STREAMLINING THE ENTIRE PROCESS, FROM ORDER ENTRY AND PRODUCTION THROUGH LOGISTICS. «

A lack of transparency in service partners' sales performance often leads to a loss of analyses concerning (potential) customers. STAR helped to solve this problem for a manufacturer of construction machinery by introducing a business intelligence tool which provides an overview of sales partners' performances.

The tool consolidates data from various source systems, making it available to the customer's sales partners so that they can monitor their own performance. This transparency is created by integrated analyses and reports. As a result, the client is able to streamline the

entire business process - from order entry through production and logistics. Sales partners are able to access all data, which has been processed and is ready for analysis.

Now that the data has been consolidated, the client is able to perform dynamic analyses at short notice. Business intelligence is helping our client to improve transparency, both in sales and After Sales. With STAR's help, they are therefore able to impress their own customers with their expertise and solution-oriented approach. The tool has impressed our client and is part of a shared future strategy for ongoing optimization.

MAKING THE MOST OF NEW COMMUNICATION CHANNELS



» NEWSBLOG.STAR-COOPERATION.COM «

The way we communicate and share information is changing. As a result, it is now more important than ever before to ensure you make the right move at the right time. STAR is leading the pack with its very own news blog - a replacement for a traditional newsletter - and a brand new, cutting-edge communication channel. Whether we're sharing staff stories, service tips, or expert articles, our news blog has proved to be exceptionally popular, both within STAR and beyond.

And, of course, STAR can also be found on all key social media platforms. We share, tweet, and like posts on Instagram, Facebook, Twitter, LinkedIn, and Xing.



„THE IDEAL CHANNEL FOR THE DIGITAL AGE“



THE FUTURE REMAINS BRIGHT

“HOW DO LOCAL SMEs APPROACH THE ISSUE OF DIGITALIZATION, AND WHAT ROLE DO START-UPS PLAY IN THIS PROCESS?” A STAR INTERN RESEARCHED THESE QUESTIONS AS PART OF HER BACHELOR’S THESIS IN MEDIA STUDIES AT STUTTGART UNIVERSITY OF MEDIA STUDIES. WE TAKE AN INITIAL GLIMPSE AT HER FINDINGS.”

Franziska Freudenberg, 24, intern at STAR

» There are several essential factors when it comes to developing and implementing long-term digitalization strategies. Key issues include securing digital talent, rethinking the way we approach corporate organization and structuring, and looking at IT issues. STAR is well aware that digitalization is much more than just converting corporate processes into digital solutions with the help of IT. It is more about a holistic transformation that affects every single area of the company. STAR COOPERATION is not afraid of foregoing new

paths and breaking down old structures. In the future, companies will have to respond to changes in a swifter and more agile manner. They need to be able to recognize which trends are a one-hit wonder and which ones will be relevant in the future. New technology will definitely help us to confront this change. However, one thing is clear: Business will never be boring! I look forward to becoming part of this exciting world when I graduate. «



TWO DECADES OF PROGRESS: ONCE REVOLUTIONARY – NOW ORDINARY

We’re all familiar with the “Save” icon in programs like Microsoft Word: the little floppy disc. It’s pretty incredible to think that many people under the age of 20 know that the icon means “Save” without actually knowing what a floppy disc is. Even though the floppy disc has since been re-

SAVING DATA AS TECHNOLOGY CHANGES

placed by CDs and USB sticks for storage, the little icon has never been replaced.

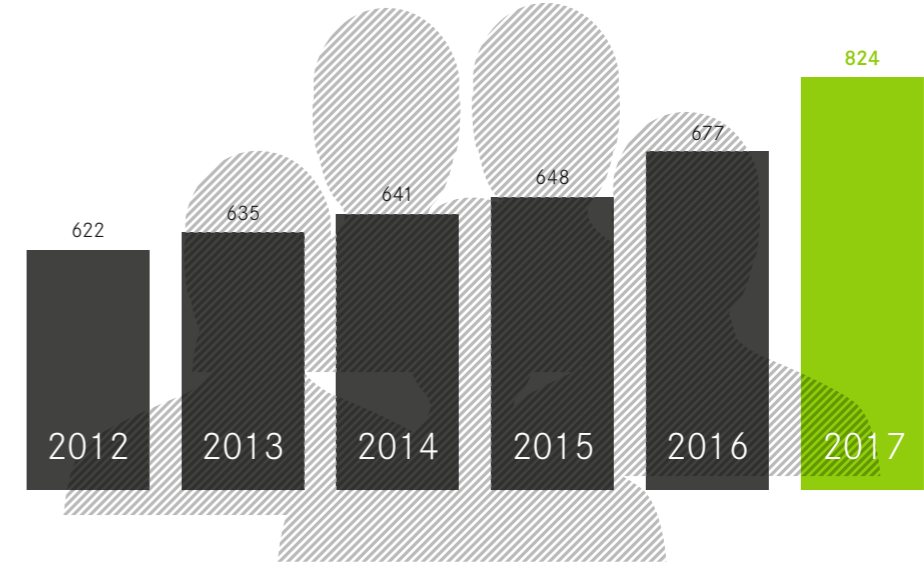
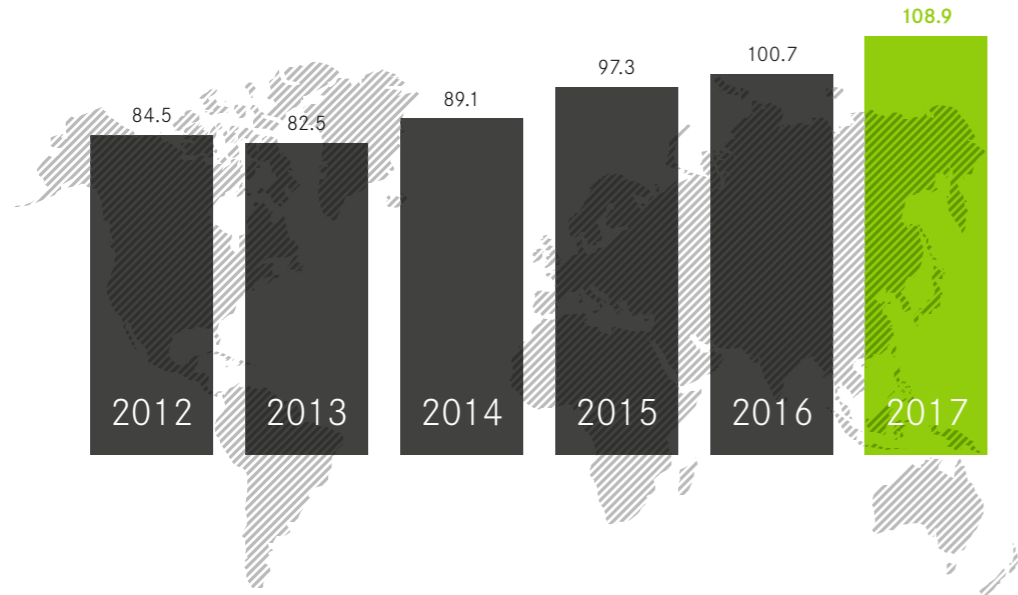
In the future, however, we will be dealing with phase-change memory chips and racetrack memory instead.



» THE NUMBERS OF TODAY ARE THE INDICATOR OF TOMORROW «

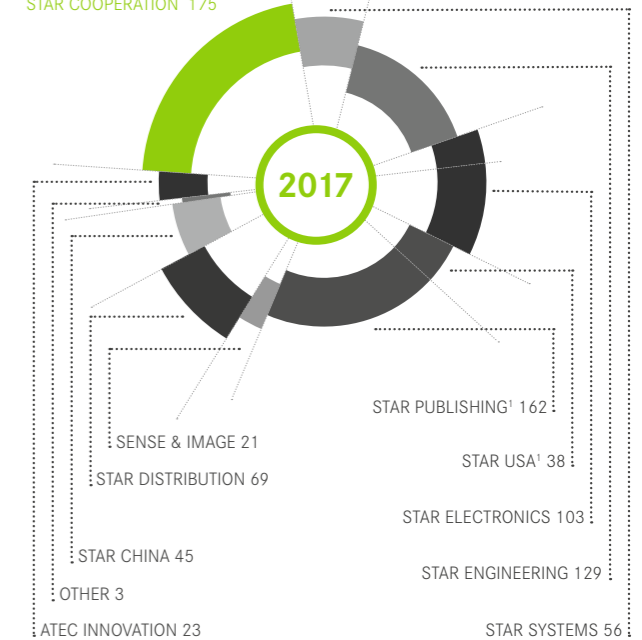
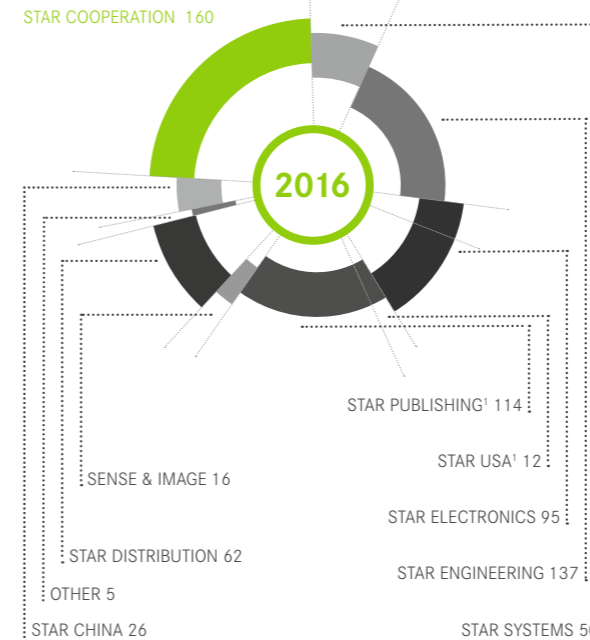
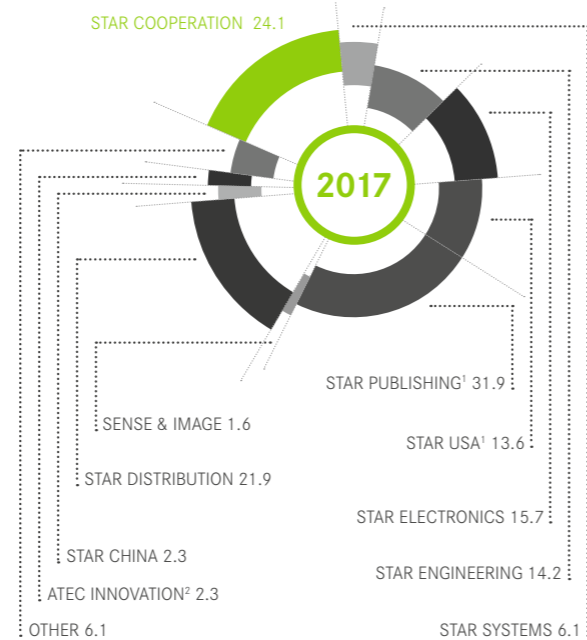
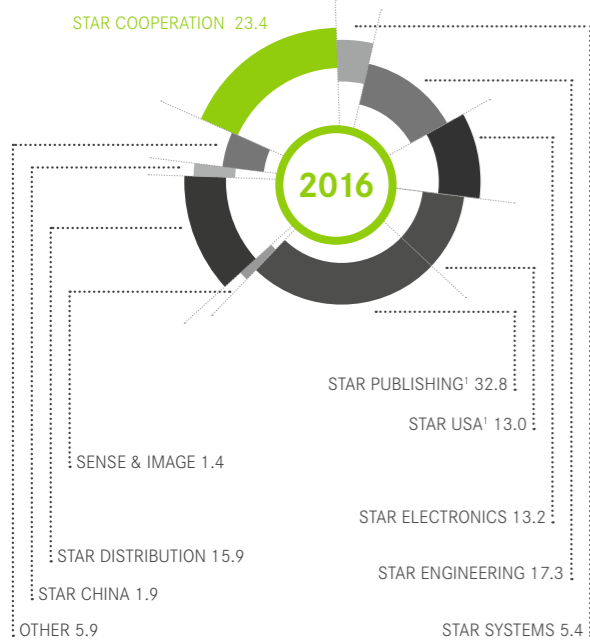
2017 | EUR 108.9 MILLION IN SALES

2017 | 824 EMPLOYEES



TOTAL SALES DEVELOPMENT AT THE STAR COOPERATION GROUP IN MILLION EUR

TOTAL NUMBER OF STAFF AT THE STAR COOPERATION GROUP



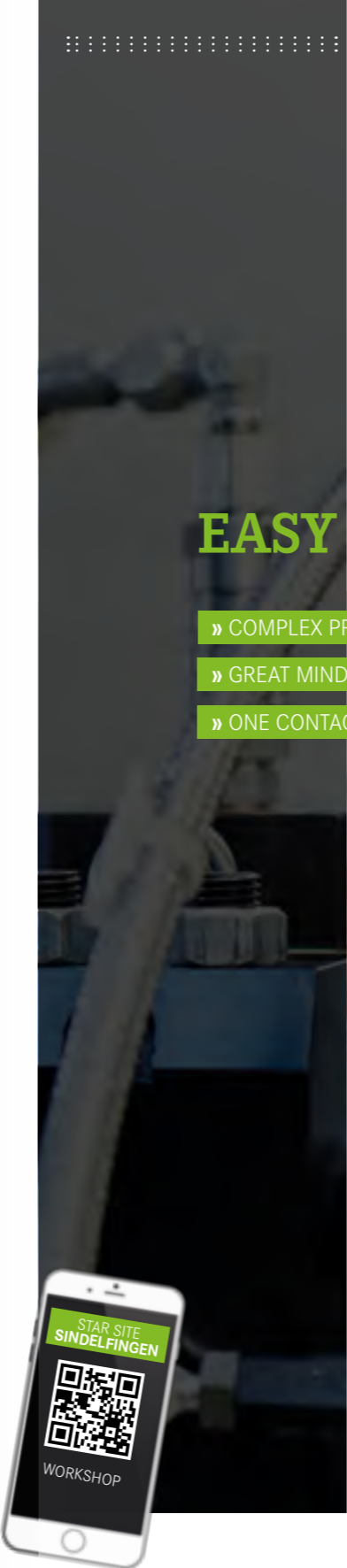
¹ Presented in previous versions as a single consolidated entity.
² Total year sales, including pro rated group sales from July 2017 onward

To display group sales, the total value of the individual companies was adjusted for internal sales (consolidation).

¹ Presented in previous versions as a single consolidated entity.

All employee data does not include trainees, interns, working students, bachelor students, master students, assistants or foreign workers.
 Values: End-of-year standing

FOLLOW US



EASY OUTSOURCING

» COMPLEX PROJECTS «

» GREAT MINDS «

» ONE CONTACT PARTNER «



It all starts with STAR COOPERATION providing individual services for a major automotive supplier.

The goal: The client is keen to concentrate on their core expertise. This inspires them to contact STAR with an exciting task. The hope: All of the projects involved should be dealt with by a single source. Our client had come to the right place. STAR's experts provide comprehensive support in the fields of media, IT, engineering, and electronics. They also employ virtual

reality. STARS help the client to maintain their testbed software, build test beds, and switch cabinets, and document specifications and operating instructions. From a range of individual projects, STAR has now created an interdisciplinary working relationship based on consolidated expert knowledge. The client has just one contact partner and countless solutions from a single source - versatility that makes a long-lasting impression.

» TRENDS IDENTIFIED BY OUR AFTER SALES EXPERTS «

DIGITAL ENGINEERING

» BOOSTING COMPETITION IN INDUSTRY «

The digital revolution has been around for a while. With the help of new technology, modern companies are able to elevate their business models to a whole new level. Terms like FinTech in the financial sector, HealthTech in the health care industry, and PropTech in real estate are demonstrating that there is no industry that digital development has yet to conquer. Processes, opportunities, and services in the engineering sector have also undergone fundamental changes over the past 20 years.

Thanks to digital engineering, digital tools are now used to support development processes. They allow users to access a product's design data throughout every stage of development and use it all the way through to the After Sales phase. As a result, digital engineering helps to improve product quality, speed up processes, protect resources, reduce costs over the long term, and make After Sales a lot easier. Digital engineering has thus become an essential factor in business strategy. When using digital engineering, a company has to set up and establish new processes and find ways to facilitate interdisciplinary cooperation on both a technical and organizational level. This approach helps businesses to stay ahead of their competitors.



STAR COOPERATION helps businesses to boost digital engineering. Take virtual reality (VR), for instance: Vehicle manufacturers use this tool to check installation and removal processes for vehicles based on 3D data alone. This makes it easier for them to prepare repair manuals for vehicles in the field of technical After Sales. Nowadays, technical authors often only need a prototype model to complete their work. They use the prototype to figure out how to remove a headlight, for example, and record each step in image form.

Digital engineering is also gaining ground in the fields of construction and architecture. STAR uses VR to create complicated building models, for example. The advantage? While 2D drawings often lack the clarity needed by architects, VR enables them to move around a new building – and thus figure out whether the simulated level of light is sufficient or if the windows need to be expanded, for example. The design can therefore be revised at any time to rule out any nasty surprises right from the outset. In large-scale construction projects, such as tunnel renovations, indi-

vidual elements, like steel frames, power lines, and water pipes, can be displayed or hidden with a single click.

STAR provides its clients with an expert partner in the field of digital engineering. Digital evolution is resulting in strategic and structural changes. It is optimizing operations and business models, while helping companies to implement their goals over the long term and enjoy even more success. By working with STAR, companies are able to build the foundations needed to ensure successful digital transformation. This evolution also involves introducing new processes and modern media. All of a company's existing silos have to be brought together, using solutions like cloud computing. As well as increasing flexibility, this also boosts our clients' efficiency and transparency.

TOBIAS
UTZ



MANAGING DIRECTOR STAR ENGINEERING

» Ever-evolving digitalization is gaining ground in all areas. The area of technical After Sales, in particular, is experiencing unprecedented levels of change in this area, which is opening up a wealth of opportunities. And development is still in its early days – there is plenty more to come. This industry is in a state of flux and is currently rediscovering itself: Technical innovations are shedding new light on the After Sales market. «

MISSION: AFTER SALES

» PERFECTLY PLANNED, PROFESSIONALLY IMPLEMENTED «

Three years ago, a vehicle manufacturer from southern Germany decided that it wanted to outsource the After Sales side of a vehicle project. The key criterion? An expert partner who could cover the entire spectrum of a vehicle project. STAR was happy to take on the challenge and impressed with the results. The many tasks involved in the project will require the team's full range of expertise until mid-2018 – with new orders set to follow afterwards.



STAR COOPERATION was involved in the development process right from the outset. This enabled After Sales requirements to be successfully implemented and integrated from an early stage. The focus during the first step was to design a product geared toward service processes. In addition to various other tasks, the team conducted service-relevant installation and removal tests using virtual components and prototypes. STAR is also defining new service concepts, taking both tools and workshop equipment into account in the process. In everything it does, STAR works hard to meet all required quality and safety standards, complying with relevant requirements and regulations. Thanks to regular project reports, each stage can be tracked by the client for maximum transparency. This has been going down well: The client has been so impressed with our ability to cover all formal, content-based, and qualitative requirements that it has already placed its next orders. These new orders are for areas including spare parts definition, repair methods, pricing, and product data management. STAR is already looking forward to these new responsibilities.

DID YOU KNOW....



... THAT GOOGLE'S ROBOTIC CARS CAN COVER 9,000 KILOMETERS?

And that they can do all of this on their own without a human behind the wheel?

(Source: dpa)

... THAT THE VEHICLE INDUSTRY COULD BOOST ITS PROFITS BY EUR 173 BILLION BY 2025?

And it's all thanks to artificial intelligence? Even now, modern AI software is able to process huge quantities of requests in just a few seconds. In the past, this process would have taken over 360,000 hours.

(Source: McKinsey & US bank JP Morgan)

TOPS ▲

STRAIGHT TO THE TOP

574,481 vehicles – this is how many extra electric cars have been sold around the world since 2017.

A SIZABLE FINANCIAL INJECTION

Around EUR 3 billion: Companies worldwide plan to invest this sum in IT projects in 2018. That's a good 4.5% more than 2017.

▼ FLOPS

WASTED POTENTIAL

Around 60% of companies with over 20 employees don't work with start-ups.

A LACK OF PERSPECTIVE

Proactive maintenance for machinery and systems? No, thanks! Just one in four companies in the car industry invests in predictive maintenance.

» TRENDS IDENTIFIED BY OUR AFTER SALES EXPERTS «

BREAKTHROUGH INTO A NEW DIMENSION

» VIRTUAL REALITY AS A PLANNING TOOL «

Immersing yourself in an unknown world, exploring your surroundings, and bringing fantasies to life: all this is possible thanks to virtual reality (VR). As consumers, most of us are already well aware that this technology is no longer just a pipe dream.

Virtual reality, or VR for short, refers to creating unique fictitious worlds using computer technology. These worlds are brought to life when the user puts on the special VR headset, which allows them to explore the fictitious space with a 360° view. Examples of how VR is used:

- Instead of remaining a passive player with a controller in front of a screen, VR allows gamers to become an active part of a game – it's almost like entering a film set and becoming part of the action. And the film industry is already exploring the world of VR, too.
- Doctors can use VR to run through an operation before starting the real thing. This allows the surgeon to really get to grips with the intricacy of the process for the best possible preparation.

STAR COOPERATION also uses VR to great success: As a service provider in the automotive industry, STAR has already visualized a number of vehicles, installation and removal processes, and various other scenarios, enabling VR to be used as a basis for making practical decisions. Planned construction projects are designed in digital environments and brought to life with VR, allowing clients to really get to grips with the concept and see it with their own eyes.

Thanks to VR, STAR and its clients are able identify new options at a single glance – a huge step forward since the days of projecting images onto a screen.

» HEADSET OFF,
BACK TO THE
REAL WORLD «

For some time now, it has been apparent that VR is not the only interesting future technology out there; there is augmented reality (AR), too. This is when the reality we actually perceive is enhanced with the help of computers. A simple example of augmented reality is the information that appears on broadcasts of football matches. We are excited to see what other new technology could shape our day-to-day lives and industry in future. However, one thing is already certain: STAR is already working with the technology of tomorrow.



VIRTUAL TUNNEL VISION

» BUILDING INFORMATION MODELING

MEETS VIRTUAL REALITY «

STAR COOPERATION received an unusual order from a client in the construction industry: They wanted to use a new method to present a tunnel renovation project to the local authority. The plan was to combine a digital model with VR technology – in a clear style what would be easy to analyze. The presentation was to be based on a digital data model of the tunnel, created using the building information modeling method. The model was created by combining and recording all relevant data for the building project. For the planning stage of the renovation project, the model needed to be transferred into virtual reality – which is where STAR COOPERATION and its expertise came in.

However, the actual implementation of the tunnel plan presented a challenge to our STARS: There are no fixed planning standards for building information modeling in tunnel construction. To overcome this, our experts pooled their skills and expertise to plan the 3D model using building information modeling and virtual reality. The clear 360° model made it easier for the designers to explain the more complicated aspects of the project, reach everyone involved, and make better decisions. Thanks to STAR, everyone was able to gain a better understanding of the complex building project and really get to grips with the details.



BEERSPIKE AND MALT



ELIXIR OF THE GODS

PASSION GOES DIGITAL

It's no big secret that beer is one of atec innovation GmbH's big passions. And what could this innovative hub love more than the chance to combine their passion for beer with their even greater passion for digitalization with added value? Working with the company Speidel, STAR COOPERATION developed a fully automatic brewery control system for home brewing and professional systems. This solution transfers the entire brewing process to the digital environment, making STAR COOPERATION true champion brewers. The entire system and its digital control unit enables users to select recipes or even store their own. What's more, the entire brewing

process has now been digitalized - right through to the finished product. In view of the trend towards Industry 4.0, the control unit also comes with a wifi connection so that it can link up with a variety of other devices and operating systems. One project particularly close to atec innovation GmbH's heart is BeerSpike. This special spike-like tool for beer brewing was developed by atec and features a very unique shape. The spike is heated and submerged in cold beer, caramelizing the remaining sugar and giving the beverage a gentle, more intense flavor. This truly unique addition to a beer is a must-have for any (wannabe) beer brewer!

TWO DECADES OF PROGRESS: ONCE REVOLUTIONARY – NOW ORDINARY

SAT NAV VS. SMARTPHONE

A few years ago, it was impossible to imagine heading out on a road trip without a map. The first modern solution to this problem arrived in 1989 with the launch of navigation systems. To begin with, these systems were similar to a good old compass-driven navigation system used on ships. Bosch was the first pioneer of sat navs, and its original model was not for

everyone at the price of 7000 Deutschmarks. Nowadays, sat navs use satellite data (GPS) - however, there is already a new unstoppable trend on the horizon: smartphones. Services like Google Maps now enable drivers to keep an eye on traffic using the cloud.

» APP OR SAT NAV - WHICH WILL COME OUT ON TOP? «

» SAFETY AND COMFORT WITH DRIVER-ASSISTANCE SYSTEMS «



INTELLIGENT CARS

Testing and adjusting new driver-assistance systems and sensors based on existing vehicle E/E architecture: This was an opportunity offered to STAR COOPERATION by one of its clients. The goal? To systematically manipulate certain pieces of data in order to intervene in existing communications. Driver-assistance systems not only make drivers' lives easier; they also improve safety. Reliability is therefore essential.

In some cases, several components had to be integrated along with a new system that could start and maintain three FlexRay buses (specifically systems for transmitting data) at the same time. To achieve this, the client's FlexDevice-L platform was changed to a FlexDevice-L² and an offset control mechanism was implemented for three FlexRay buses. And the hard work paid off: "It's the best gateway and residual bus simulation tool that we have ever used", was the client's response.

» STAR BUYS ATEC: NEW INNOVATION HUB NOW ON BOARD «

SYNERGY AT ITS BEST



In the past, atec innovation GmbH outsourced all of its electronic assembly work to external companies for production.

However, since it joined STAR in early 2017, the company has been able to have electronic assemblies produced in-house. From checking and accepting parts lists and production data, procuring material and production tools, setting up production, through to producing sample models: 7,000 atec electronic assemblies could be produced in just eight weeks thanks to plenty of teamwork! By reducing the transit paths for material and information, and simplifying communication, we have demonstrated just what it means to boost synergy.

AN ADDED DOSE OF INNOVATION

» WELCOME TO STAR «

The innovations hub atec innovation GmbH from Sindelfingen – a long-term business partner of STAR's – has been part of STAR since early 2017.

Managing director André Flemming and his team have been growing with STAR ever since, bringing plenty of benefits to all those involved: The latest member of the team has been speeding up innovation work within the group, particularly in the field of product development and marketing. Meanwhile, atec is continuing to work on highly innovative projects but can rest assured that it has the experts at STAR to rely on for other development work in future.

THINK OUTSIDE THE BOX

END-TO-END-DIGITALIZATION

Digitalization – we all come across it, be it at home or at work, but we all have a different understanding of it. Often, digitalization is interpreted as simply adding a display to a product – voilà, you've got a digital product. However, this display needs to have a logical system behind it as this is essential for the solution. So, the main thing you need to ask yourself when approaching digitalization is: Why are we going digital and what added value does this offer? The goal is to create and track a value creation chain that can transfer an entire process into a digital environment. An excellent example of this would be the design of an automatic brewery control unit for home brewing and the catering industry, developed by atec innovation GmbH in conjunction with one of its clients. The entire brewing process has been digitalized. From a portal for ordering ingredients to the process of brewing, cooling, fermenting, and filling: everything can be done digitally. Digitalization therefore creates genuine added value for the client, who no longer has to rely on numerous different systems.

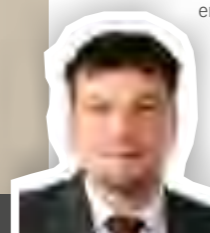
» EXPERT TRENDS IN DIGITALIZATION «

To make sure this added value remains intact, atec starts every client off with the same process: Does digitalization make sense as a whole or is it just an added bonus? If you are unable to create and implement an entire digital value creation chain for your product, then something you thought was a "must-have" is actually just an added bonus. Let's say your product is a hammer: This tool enables the user to hit a nail into the wall. If we now digitalize the hammer, this means that a barcode is created and stuck onto the product. This code contains elements that can be read by a machine. If we then scan the barcode, we find

out that we have a 500-gram hammer with a wooden handle made by company XY. In this case, digitalization would give us a very small amount of added value. This step is followed by the business case. The process has to be worthwhile to the client, and the end customer has to be willing to pay for the added value from the digital value creation chain. The added value has to be clearly identified and evaluated to see whether the return on investment would be positive. If not, then digitalization would end up being just another added bonus. Another factor to consider is the development of the market. You have to assess whether there is demand for the product or if it could yield more profits in a few years' time – you may not believe it, but there is actually a problem of being "too innovative" in this day and age.

» ADDED VALUE THROUGH DIGITAL TRANSFORMATION «

Once all of these factors have been considered, atec moves onto the next step: the added technical value, i.e. sensors, the right software, the system as a whole. Next up – application programming, software architecture, etc. – is where atec's synergy with STAR COOPERATION comes to the fore. As an expert in fields such as hosting and app and portal development, it can take charge of the entire digitalization project until the finished product is ready. Covering the entire range of services – from the initial inquiry to the end result – clients get to enjoy a single solution from a single source: that's end-to-end digitalization.



ANDRE FLEMMING MANAGING DIRECTOR ATEC INNOVATION

» My goal is to develop innovations that cover the initial idea phase all the way through to the finished product. Working with STAR, we are the ideal partner for digitalization, offering clients the unique added value of honesty, inspiration, and creativity. «



» MODERNIZING DEVELOPMENT VEHICLES «



EXPANSION STRATEGY COMES TO FRUITION

A new division at STAR is responsible for release conversions – in other words, updating development vehicles to the latest E/E releases. As part of this work, 13 STARS worked for one of our clients in the automotive industry, replacing and updating up to 40 control units, and adapting pins and wiring harnesses. However, they faced a challenge: Processing a large number of vehicles within a short period of time. Thanks to the expansion strategy for the workshops and the new hall, the problem was solved with ease, allowing the work to be completed successfully. The strategy has come to fruition: STAR has been awarded a follow-up order for 2018.



» MEASURING EQUIPMENT FOR A FULLY ELECTRIC VEHICLE «



E-MOBILITY DESIGN



A mobility concepts engineer tasked STAR COOPERATION with planning and implementing new measuring equipment. The aim was to install a measurement computer and test equipment for a fully electric vehicle. The team of experienced STARS was even able to improve the customer's concept with its own proposed changes. Racks were installed in the luggage compartments of three vehicles for storing components and wiring. They also produced a wiring harness for connecting the camera and vehicle signals to the measuring equipment. Thanks to our STARS' expertise, the project was completed on schedule and with great success despite the time pressure – and we already have our sights set on follow-up orders for 2018.

» Vehicles, electronics, conversions – breaking all of these elements down makes them more complex as a whole. The age of simply changing around a few contacts is long gone. We recognized these new challenges early on, which has enabled us to offer cutting-edge solutions that will bring our clients long-term success even in the age of never-ending change. «



HENNING LANGE

MANAGING DIRECTOR
STAR ELECTRONICS & ATEC INNOVATION

ELECTRONICS

Charging points dotted all over cities, lane departure warning systems in rental cars and predictive navigation services that can avoid traffic: Even in day-to-day driving, we are actually much closer to the future than many of us may realize. However, it is still early days: “Go safe, go green & get connected” is the car industry’s motto for the next few years.

Safety has been a key issue on the roads for decades and will, of course, remain a major factor in all visions for the future. Over the next few years, we are expecting to see progress primarily in the areas of autonomous driving and driver-assistance systems. The aim is to create vehicles that can accelerate, brake, indicate, and steer without the need for any human intervention. In an ideal world, these vehicles will rule out the risk of human error and safety risks – ergo the motto “go safe”.

If autonomous vehicles are able to guarantee a 100% safety rate in the future, we could even see self-driving vehicles becoming mandatory. As well as improving safety, this trend could also benefit bricks-and-mortar retail by promoting mobility thanks to autonomous driving.

To ensure this level of safety, a huge range of wide-spread networks need to be established – ergo the motto “get connected”. In the best-case scenario, all vehicles on our roads will be connected via a cloud so that they can exchange data and thus make their own decisions. A cloud-based solution also forms the basis for data exchange between vehicles and traffic infrastructure. Are there any road signs to look out for? Are there any traffic jams? When will the lights change? Where should I park? All of this will require a lot of bandwidth for swapping data with control systems. The car industry will have to confront these challenges over the next few years.

The aspect of electric mobility – the “go green” part of the motto – will become an intrinsic part of all future scenarios for road travel. At the moment, the problem in this area relates to short ranges. Drivers are used to being able to refuel in five minutes and then drive several hundred miles without having to stop. If you have an electric vehicle, however, this is currently nowhere near the realm of possibility. The relationship between energy and time has to be enhanced for the charging systems of the future.

The motto “go safe, go green & get connected” is clearly mirrored in the strategy for STAR COOPERATION’s automotive division. Our focus is on finding solutions to all of our clients’ problems using the new technology growing out of these trends. However, as a service provider, our difficulty lies in identifying challenging issues at an early stage. If successful in tackling this challenge, we are able to offer solutions and tools for the development phase, enabling our customers to conduct effective, fully-fledged vehicle tests and validations. These tools also allow new technology to be integrated into existing vehicles and customers to apply test scenarios that would otherwise be impossible. Because our team of STARS always work closely with clients, they are able to track trends directly and, as a result, develop suitable solutions to problems at an early stage. The customer-specific solutions created under this approach often end up generating products that advance and enhance the future of driving.

» TRENDS FROM EXPERTS IN VEHICLE ELECTRONICS «

GO SAFE GO GREEN GET CONNECTED

» MOBILITY
OF TOMORROW «



NEW WORKSHOP

NEW OPPORTUNITIES

Working on 15 vehicles at the same time? Not a problem for one of STAR's customers! Our client can now respond flexibly to their customers' requests.

To reach this stage, they needed a new workshop, including specially trained staff, in close proximity to the original factory. For the experts at STAR, the task was to enable the customer

to convert and build vehicles and perform work in the fields of measurement technology, mechanics, and electronics. They also had to make sure the customer could manufacture cable harness prototypes and use electrical equipment for pallet systems. And their hard work paid off: Our customer has been using eight standard vehicle platforms, one vehicle measurement platform, and a number of other workstations since January 2018.



» STAR SUCCESS IN AUDITS «

Processes and progress at STAR undergo regular external assessments by TÜV Süd Management Service GmbH. In 2017, an audit of the STAR management system saw it successfully certified in the areas of Quality (ISO 9001), Environment (ISO 14001), and Energy Management (ISO 50001). The information security of STAR SYSTEMS was also certified under ISO 27001. By the way, many companies will only work with partners who hold the relevant certificates, and even (potential) employees see these certificates as positive confirmation of their employer.

A GOOD RESULT IS HALF THE BATTLE

» CONTROL UNIT DEVELOPMENT «

Our STARS know the score: **One of the hallmarks of a modern vehicle is its many control units that communicate with one another via a range of bus systems. When developing these units, it is vital to ensure the entire system can be tested. However, testers rarely have access to the system as a whole. This is where STAR COOPERATION comes in. Data from the missing control units is generated using residual bus simulation.**

the vehicle, putting the ECU into a regular operating state. Residual bus simulation is performed on a PC and the data is then emitted to the ECU via an interface. For our STARS, the challenge lies in generating quick and realistic results from residual bus simulation while also taking into account the relevant underlying conditions. Our solution is known as FlexDevice and has attracted a loyal following of engineers, developers, and technicians over a number of years. Once connected to a power source, our compact and robust devices execute configured gateways and residual bus simulation in a fully autonomous process, meaning a PC is no longer needed during operations.

This process simulates and generates data traffic that would be needed by a particular ECU (electronic control unit) or received by

» THE NEW FLEXDEVICE-L² HAS BEEN ENHANCING THE TWO EXISTING HARDWARE PLATFORMS, FLEXDEVICE-M AND FLEXDEVICE-L, SINCE 2017: WITH MORE FPGA MEMORY WHILE STILL MAINTAINING THE SAME CONSTRUCTION SIZE, IP67 PROTECTION CLASS, AND ROBUST DESIGN. «

24/7 USE

» PREPARING FOR VEHICLE TESTS «

A select team of STARS was required to demonstrate flexibility and determination to help prepare vehicles for an EMC test (checking the electro-magnetic compatibility of an electronic product).

Our customer needed their vehicles' interior and underbody to be dismantled and then reassembled once the measurements were complete. And, in many cases, this work had to be performed over the weekend so that the vehicle was ready and waiting for its driver on Monday morning. STAR COOPERATION's new division proved to be huge benefit for our customer. Being able to rely on our STARS for the preparation stage meant that our customer could save on resources and concentrate on the test. We, too, benefited enormously from this flexibility and reliability: Because our customer was so satisfied, they have decided to bring back STAR for 2018.



TWO DECADES OF PROGRESS: ONCE REVOLUTIONARY – NOW ORDINARY



ONE DIGITAL DAY

In July 1997, Intel employed 112 star photographers to take photos of their surroundings to highlight how digitalization was changing their lives. Intel was keen to demonstrate just how digital everyday life around the world had become. The project generated some world-famous photos, such as the image of a woman and soldier posted abroad taking part in a video call with their newly born daughter. Or, there's the picture of a gamer in Japan surrounded by equipment – though this image was slightly more jarring back then than it is today. All of the photos are perfect examples of happy memories of time gone by.

A NEW ADDITION TO THE FLEXDEVICE FAMILY



» ENTRY-LEVEL MODEL FOR RESIDUAL BUS SIMULATION «

Here at STAR COOPERATION, we place a great deal of emphasis on in-house developments to ensure we are always able to offer clients top-class products and services. Our Göppingen site currently offers high-end (FlexDevice-L and L²) and mid-range devices (FlexDevice-M) for residual bus simulation and gateways.

However, one thing was as yet absent from our portfolio: an affordable entry-level model, though this has now changed. We needed a solution for clients using simpler forms of bus systems, like LIN and CAN, as well as a product for price-sensitive customers. To resolve

this, STAR COOPERATION set itself an ambitious goal: to create an affordable entry-level FlexDevice for residual bus simulations and gateways. The number one priority? During the design process, a great deal of attention was paid to manufacturing costs – while also making sure there were no compromises in terms of quality and practicality. The results speak for themselves: STAR COOPERATION will soon be adding a very affordable, high-performance entry-level model to the FlexDevice family portfolio. This will be able to execute gateways and residual bus simulations on LIN, CAN-HS, CAN-FD bus systems as well as FlexRay and automotive Ethernet. It is therefore perfectly tailored to the needs of our target group.

» FlexDevice-S «



» SOFTWARE ENHANCEMENT FOR THE VEHICLE INDUSTRY «

THE BEST GATEWAY SOLUTION ON THE MARKET

A major supplier in the vehicle industry already successfully applies STAR COOPERATION's FlexConfig RBS software in a range of departments. Following their exceptionally positive experience with our tool chain for residual bus simulation, they opted for the next step.

However, to be able to use this tool chain for another major vehicle manufacturer, a number of enhancements were required to ensure the partners' vehicles could be supported. Our STARS' job was therefore to enhance the FlexConfig RBS software specifically for the OEM so that residual

bus simulations and gateways could also be created for the vehicle manufacturer's cars. A lot of work was involved in this task. It paid off, though: our client can use the solution for all of their tests. Residual bus simulations and gateways are created with our tool chain (FlexConfig RBS and FlexDevices). And their work has been given the recognition it deserves. Our client has described FlexConfig RBS as the best solution for creating gateways on the market. Further OEMs are set to receive support in future, meaning that the solution can be used in other departments.



» FlexConfig RBS «

AN ELECTRIFYING EXPERIENCE

» INCREASING THE VOLTAGE FROM 400 TO 800 VOLTS «

Our client – a major developer of drive train batteries – set STAR a huge challenge: an important customer wanted to develop the prototype for an electric vehicle that was designed to run on an 800-volt battery. However, our client only had 400-volt batteries in their portfolio and these were equipped with their own battery management system (BMS). Therefore, the task was to combine two 400-volt batteries to form one 800-volt battery.

» COMBINING BATTERY MANAGEMENT SYSTEMS «

The resulting product was, of course, still expected to meet the stringent requirements for high-voltage safety, a status which had to be assessed on an ongoing basis. In an effort to tackle all of these challenges, our client contacted STAR. Our STARS started by dismantling the existing high-voltage battery. They then made sure that the voltage could be increased from 400 to 800 volts. To do this, they had to rewire both 400-volt battery

banks and optimize various aspects. Another essential element of their work was the development of gateway software based on the FlexDevice-M for connecting the two battery management systems in the vehicle. The success of the project is about to be confirmed with the acceptance of the high-voltage system and extensive functional tests on the test bed. However, our client is already exceptionally happy with the results.



PUTTING POWER TO THE TEST

» ENGINES ON THE TEST BED «

As part of a project, STAR COOPERATION enhanced the existing FlexDevice-L to create the FlexDevice-L². How it all started: Our client runs a number of test beds with various test engines to assess the endurance of the engines and other drive components. To make sure the engine is tested as thoroughly as possible on the test bed, a lot of information about the ambient conditions is needed. Normally, the engine control unit would receive this information from the rest of the vehicle and its sensors. To replicate this, STAR uses the PowerUnit, which is primarily used to simulate the relevant power signals for controlling the engine. In the future, other electronic bus systems will be used: Flex-Ray, CAN, CAN-FD, and 100Base-T1. To be able to use these

on the test bed, a STAR team has developed a simulation platform to support these systems. The platform is also easy to adapt to future requirements. To create the platform, the team enhanced the existing FlexDevice-L to create the FlexDevice-L² with up to 22 bus interfaces for CAN, CAN-FD, FlexRay, Ethernet, 100-Base-T1, LIN, and SENT. What's more, the STARS adapted the bus connection on the FlexDevice-L² with a new connection concept while still maintaining the same construction size with easily identifiable contacts. The front panel and bus panel on the FlexDevice-L were also specially adjusted for the client's needs. Following a successful pilot project, the client has now ordered over 180 devices and the working relationship is set to continue.

BRIGHT HOPE FOR THE FUTURE

» PASSIONATE APPRENTICES AT STAR «

The STAR philosophy is also embodied by STAR COOPERATION's apprentices. We call them "Sterntaler" after a fairy tale known in English as "The Star Money" by the Brothers Grimm. Every year, they collect thousands of euros in donations for charities in the Böblingen region. In 2017, they amassed a total of EUR 4,300 – and in keeping with the motto "sharing is caring", this money went on to help a variety of organizations. Donations

were made to a number of different charities, including the refugee group Freundeskreis Flüchtlinge and a children's hospice in Stuttgart. When it comes to selecting charities to support, STAR aims to provide support to people in need in our society – and the feeling you get when you have really made a difference makes all this hard work worth it, year in, year out!



» TOGETHER WE ACHIEVE MORE. «



CHALLENGE
ACCEPTED
&
CHALLENGE COMPLETED

» INCREDIBLE POWER FOR EXTREME CONDITIONS «

Vehicle manufacturers are installing an increasing amount of measurement technology during vehicle tests. The result? They need even more energy to run all this equipment. One of our clients was therefore keen to improve the energy efficiency of their vehicles. Working with STAR, the client created the first prototype with a lithium phosphate battery.

With the engine switched off, we were able to achieve a 70-amp current for a period of 20 minutes. One of the main challenges was making sure we didn't exceed a maximum weight of 35 kilograms - while at the same time ensuring vibration resistance during rough-terrain tests at any given temperature. After four months of project work, we had created a powerful battery for extreme conditions based on a highly complex logical system.



ZORAN CUTURA

MANAGING DIRECTOR STAR ELECTRONICS



» We understand the challenges of the modern market, enabling us to offer customer-specific solutions geared toward the trends in our industry. As an engineering service provider, STAR guides clients through the entire process from start to finish. We therefore help them to implement holistic concepts with strong prospects of success. «

» SETTING UP A HIGH-VOLTAGE CHARGING TEST BED «

HEAVYWEIGHT
MANAGEMENT SKILLS

STAR COOPERATION developed a high-voltage charging test bed with network simulation for type-testing electric vehicles around the world.

The goal was to simulate specific forms of power grids in various countries and record the resulting electrical charge balance. Furthermore, grid errors also needed to be simulated on a freely programmable interface. For six STARS, this meant several months of developing a concept, setting up and commissioning the equipment and managing all

aspects of the project. Delivering the 1.5-ton test cabinet to the top floor of the vehicle manufacturer's building proved to be a major challenge. However, all their hard work was worth it: Thanks to the new test bed, our client now has solid evidence of the range and consumption of its electric vehicles. Our client can also simulate errors during charging and validate vehicle components when needed.



DIGITALIZATION ON TWO WHEELS

» CAN BUS SYSTEM FOR A MOTORBIKE MANUFACTURER «

STAR COOPERATION is not just a hub of innovation for four-wheeled vehicles; our STARS are also successful innovators in the two-wheeler market. One project is currently delivering strong evidence of our two-wheeler expertise: As well as infiltrating the passenger vehicle market, electronics are also taking hold with motorbike manufacturers. The electronics systems used in motorbikes have undergone a number of overhauls. In order to ensure more power as well as more safety, a large number of motorbikes are now equipped with ABS, electronic injection, charge management, and sensors on the chassis.

Recently, an increasing number of manufacturers have started switching to a CAN bus system, bringing a number of future benefits. This trend has brought issues like automatic gearboxes, driver-assistance systems, and even electrification with electric motors to the fore. To be able to read all of this complex data during the development of high-tech motorbikes, you need cutting-edge methods and equipment. With the FlexConfig Analyzer, STAR has developed a tool that is already in use at a pioneering motorbike manufacturer. Wireless Bluetooth technology is used to read data from the CAN buses for added ease of use. Another practical feature is that data can be visualized and

logged on a tablet. As soon as the ignition is switched on, our client can read data from all sensors and control units in the motorbike, save it and even display it on a tablet. Brackets can be used to secure the test device to the steering column, enabling riders to keep an eye on the data while driving. Special pieces of testing software process and analyze the data.

TWO DECADES OF PROGRESS: ONCE REVOLUTIONARY – NOW ORDINARY

One way of understanding just how quickly technology is changing in the automotive sector is to look at the innovations that were revolutionizing cars 20 years ago. The Toyota Prius launched in 1997 and was the first ever series-production vehicle to come with a hybrid drive. The



THE FUTURE HAS ARRIVED

Prius is now in its fourth generation. Another positive innovation for the environment also arrived in 1997: The common rail system (CRS) helped to cut fuel consumption and reduced harmful emissions from diesel engines.

A HALL THAT DOES IT ALL

» A REALITY CHECK FOR VIRTUAL REALITY «

A hall to serve a number of different purposes: This is what our client wanted to offer its customer. Our client therefore set STAR the task of bringing esthetics and functionality together under one roof. According to plans, the room was to be used both as a working area and a conference hall. So how exactly do you figure out the effect of various design elements before they are actually installed? The best way is to use VR (virtual reality). This solution enabled the client to take a virtual tour of the design at any point throughout the entire planning and development stage. It also acted as a visualization tool

for all the various stakeholders, such as architects, planning offices, and technical equipment companies. VR-based optimization of the seating and screen plans was particularly important when designing the flexible seating area, which needed to be able to hold 3,000 people during lectures and events. Furthermore, visual elements, like illuminated ceiling panels and black pipes, could be checked to make sure they had the right impact. The client's response? STAR's custom-made VR solution was an out-and-out success!



» FORWARD-THINKING VR «



**CONTENT
IS KING**

» TRENDS IDENTIFIED BY OUR MARKETING & SALES EXPERTS «

THE POWER OF LEAD MANAGEMENT

A lead refers to a potential new customer for a product or business. The “lead” allows their address and other data to be passed on to the advertiser, thus establishing a dialog. This increases the probability of the lead turning into a customer. Lead management therefore focuses on generating new customers and developing leads until they turn into consumers.

LEAD GENERATION

An optimum lead management strategy can play a major role in making sure sales and marketing come together to successful effect. When sales and marketing processes are in tune with one another and closely consolidated, this can give a company a huge edge on the competitive market and among customers. Lead generation is the start of the lead management process. A potential customer finds the product or company independently, e.g. via their website. This is why a website needs to be search-engine-optimized. Furthermore, the content of the website needs to meet the needs of the potential customer. An online presence is the first point of contact, and it is essential that the user discloses their data voluntarily – encouraged by appealing offers. This is how a potential customer becomes a lead. Now it’s time to turn the lead into a customer.

LEAD NURTURING

The next step is lead nurturing, in other words, looking after new leads by giving them custom-made information to encourage them to make a purchase. The lead receives specific information at certain intervals, depending on where they are in the decision or purchase process. The company can also use this communication process to generate additional data on the potential customer. As a result, the company is able to gradually create a profile for the lead.

LEAD SCORING

Next, the lead should be guided toward a conclusive sale, so it’s time for lead scoring. The lead is now assessed to find out whether they are suitable for a certain sales goal. The profile that has grown up over time contains data, which is then assigned to values. Any data downloaded by the lead is also logged and evaluated.

LEAD ROUTING

The evaluation system is developed in a collaborative process between sales and marketing. A decision is made as to how the values should be assigned and at what point a lead can be passed from marketing to sales. This is known as lead routing. During this process, all essential information about the lead is passed from marketing to sales, so that the strategy for turning a lead into a sale can be adjusted as best as possible.

» THE RIGHT APPROACH AT THE RIGHT TIME «

LEAD MANAGEMENT

As a general term, lead management covers all of these individual steps (generation, nurturing, scoring, and routing), from setting out the goal at the beginning to concluding the sale at the end. Once the process has been fully completed from start to finish and the lead has become a customer, the process can start again, launching a whole new round. The sale is already evaluated to see whether a customer is suited to up-selling or cross-selling, offering them higher value or other products. In this case, the customer becomes a lead again and the process starts again from the outset. Of course, content is at the heart of the entire process. It has to be relevant and suited to the potential customer, as well as prompting the customer to take action.

Once you have found a potential customer, it won’t take you long to find out everything else you need, processing information and passing it on to determine, for example, their position in a company, their eating habits, or their favorite films. Lead management is one option for attracting a customer to your business.

MARKETING AUTOMATION SYSTEMS

Provided future data protection regulations grant the right to do so, marketing automation systems are another possible tool for the lead management process. These systems help to create suitable offers and content for customers. Their usage patterns provide an insight into their preferences. As a result, content can be prepared on an individual basis and elements can be tailored to the potential customer. When it comes to offers, customers are split into different user groups, so they can be encouraged to make other purchases in the future, depending on the circumstances.

CUSTOMER JOURNEY

It is important to use custom-made content for each phase of the customer journey. During the phase known as the awareness stage – i.e. when the customer first encounters a problem – you have to start by providing sales-neutral information, such as test results or studies, so as not to put the customer off.

Once the lead starts looking for ways to solve their specific problem, this marks the start of the consideration stage. During this phase, keyword searches play a central role. While the future customer continues with their research, their lead score has to be adjusted in a marketing automatic tool to further qualify the rating. Once a lead has decided which potential solutions could help resolve their problem, it is time for the decision stage. The potential customer then starts looking for recommendations and data to help them make a final decision in favor of a particular product. They compare offers, services and prices, which are then analyzed accordingly. During their search for information, customers may encounter things like comparison portals or trial offers.



**RAMONA
KADEN**

**MANAGING DIRECTOR
STAR PUBLISHING
STAR DISTRIBUTION**

» With marketing automation, customer journeys, and lead management, we are already on the ideal path for making the most of the potential of these measures. Any company that manages to stay ahead of the crowd in these fast-paced times will be able to offer their customers long-term added value with innovative strategies. «

If a lead visits a pricing page and leaves without buying anything, ideally they should receive a voucher code or any other relevant information by e-mail the next day. In lead management, the optimum marketing automatic tool will therefore focus primarily on lead nurturing, developing suitable campaigns. What’s more, the tool should also evaluate visitor tracking and define sales tasks for follow-ups. Marketing automation can therefore optimize the sales process with immediate effect, completely redefining a business’s future.

Things are changing in the world of media and marketing – with suitable measures like lead management, STAR advises its clients, helping them to stay up-to-date and make the most of the opportunities offered by digitalization. Regardless of whether the upcoming changes to data protection law limit or even eliminate the potential success of various business models, STAR will remain on the ball as an early pioneer of the marketing automation trend with its team of certified consultants and tool-independent advisors. And it will, of course, continue to provide its customers with the best possible advice for future developments.

» SALES LITERATURE, IN PRINT AND VIA APP «



TAKING OVER THE WORLD

Böblingen, August 9, 2017 – STAR's marketing and sales experts enjoy a huge pitch success. The Böblingen-based media managers secured the commission for global media management of the BMW Group's sales literature, impressing the company with their professional concept for content-based publishing.

STAR COOPERATION will assume management of the sales literature for cars, motorcycles and accessories worldwide for nearly all of the Munich-based corporation's brands. In close collaboration with the client, creative and production agen-

cies and translation providers, an extensive team of experienced media managers is ensuring that sales organizations around the globe receive the sales materials they need in up to 32 languages.

"From two-sided flyers to entire catalogs, we will apply our systematic approach to overseeing a range of media formats," says Marina Pepaj, General Manager at STAR PUBLISHING and the main person responsible for implementing the pitch. "This doesn't just apply to print materials, but also the appropriate content for various mobile apps." "We are currently in the transition period and are adding further media

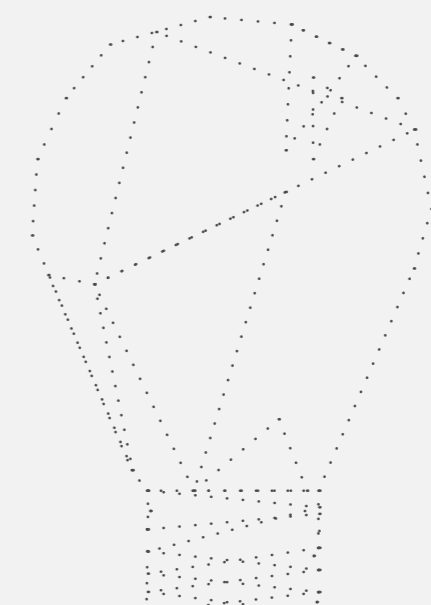
management experts to our Munich-based team before we completely take over the project at the end of the year," added Ramona Kaden, CEO of STAR PUBLISHING.

In a multi-level pitch process that took the better part of a year, STAR COOPERATION stood out among a number of other industry heavyweights including the previous position holder. "We're really happy that we were able to win over the client with our concept and are looking forward to an exciting future with the BMW Group," stated Marina Pepaj.

» THE ENTIRE COMPANY IN AN APP «

STAR under time pressure: By setting up its own subsidiary, a major German wholesaler in the food industry was keen to expand the field of digitalization as quickly as possible, also enabling it to offer a new business model for the area of hospitality. Our STARS won the contract and found themselves facing a completely blank slate. Their tasks included creating a corporate identity, branding material, and a design for all marketing material. And once the designs were ready, they had to be brought to life – despite a demanding schedule. In addition to the subsidiary's main website, the team also programmed websites for various corporate brands. They also revised the current code for the company's own sales app for digital sales as well as partner offers. This allowed for real-time documentation, lead generation, and an interface between Salesforce and Pitcher with automated data transmission. All solutions are combined in one app – a real success for STAR, and one that has been able to generate real added value for our client.

**HOSPITALITY
BUT NOT AS
YOU KNOW IT**



CONSULTING WITH A LONG-TERM IMPACT

» SOFTWARE FOR A LONG-TERM IT STRATEGY «

A client from the field of sanitation, heating, and air conditioning approached STAR with a tricky task: They wanted to find suitable PIM software that would allow product data to be managed in a database while also emitting electronic and print catalogs in an automated process – and all of this in ten different languages. And that wasn't all... Three managing directors were involved in the decision-making process, all of whom had different ideas when it came to the evaluation. The challenge thus involved having to consider the interests of all parties involved. Within just nine months, STAR managed to analyze the client's international marketing process and develop a big picture for the IT system land-

scape, along with new marketing processes. They used the client's specifications to create a catalog of requirements, analyzed a SW provider relevant for market screening, and then found a piece of software suitable for meeting the client's needs. And, last but not least, they also used the big picture to create a long-term IT strategy. Thanks to their outstanding knowledge of the market, our STARS were able to select software providers at a similar pricing level, which greatly improved the negotiating stance during the final selection stage. The result? The discounts granted significantly exceeded the costs for the consultancy services.

“MOBILE FIRST” BRIGHT PROSPECTS

» TRENDS IDENTIFIED BY OUR MARKETING & SALES EXPERTS «

Even though a homepage might look right on a conventional computer desktop, users should still be able to enjoy the best visual experience when visiting the same URL from their smartphone. This is where responsive web design (RWD) comes in. Internet users can view all of the content on the homepage – in line with the motto “form follows function”. Anyone who uses the Internet on their smartphone – say, to look up the opening hours of a restaurant on its homepage – is sure to realize that the majority of companies have yet to catch on to the concept of responsive web design. The market is showing us that responsive web design needs to become an essential part of business.

As the number of smartphones and tablets is rising constantly, so too is the importance of getting to grips with the topic of “mobile first”. “Mobile first” means assuming that more users are viewing your website from a smartphone or tablet than from a computer desktop. The focus is now shifting primarily to an optimized page for mobile devices with expansions for other devices being added on a gradual basis. Any company that has failed to recognize the importance of responsive web design or “mobile first” has a problem on their hands as “mobile first” is now becoming “mobile only”. The thinking behind this is that Internet usage on mobile devices is only going to rise. In the field of Internet advertising, the spotlight has long been on mobile optimization. When it comes to “mobile only”, the important thing is to make sure your concept is both sensible and comprehensive. If you have an online store, for instance, it is important that a “mobile only” app not only fulfills its purposes but has also been thought through from A to Z. It is absolutely essential to ensure that all key functions are

working properly, such as searches, item displays, account data, addresses, and order processing. Equally important, however, is that the app is fast, uncluttered, and easy to use, while also offering the customer practical added value.

Another key point in the industry is the issue of web app vs. native app. A native app is an app that has been developed especially for an operating system – i.e. iOS or Android – and is normally available in the equivalent app store. In principle, a web app is a responsive website that recognizes the type of device being used, thus adapting the display accordingly. The major advantage here, of course, is that you don’t have a provider-dependent app, thereby giving you more potential users. As a result, you don’t need approval for any app stores and updates don’t take as long. Because native apps are optimized for a particular operating system, they also offer more complex opportunities. The native app is also able to access the device’s camera directly.

The teams at STAR keep a constant eye on all industry trends. To make sure we stay up-to-date for our customers, our STARS are also able to identify short-term trends and those that are here to stay in the long term – making them the ideal guide through the data jungle.

» RESPONSIVE
WEB DESIGN
FOR ALL DEVICES «

Our working environment is shaped by IT. The way we use the Internet and apps is changing all the time. Instead of completing each step on a stationary device, more and more people are working on the move using smartphones and tablets.

SECRET RECIPE FOR SUCCESSFUL DIGITAL EVOLUTION

Welcome to the innovation workshop at STAR COOPERATION. This is where our STARS meet in a unique and creative atmosphere to work on pioneering concepts and revolutionary products. The experts from STAR's Media unit also come here to blend their various expertise with delicious results. On the menu here: THE secret recipe for successful digital evolution. It's high time to take a look at what our star chefs have been working on – and get to grips with the ingredients.

INGREDIENTS

- Pure expert knowledge «
- One large think tank «
- A pinch of start-up flair «
- Two heaping tablespoons of innovation «
- A good dose of design thinking «
- 100% customer centricity «



PREPARATION TIME

No later than the discovery of the world wide web



COOKING TIME

For as long as you're exciting clients – and beyond



WORKING TIME

Yesterday, today, and tomorrow

THE PROCESS

- 1** Mix pure expert knowledge in a think tank and add a pinch of start-up flair. This helps to get sparks flying, creating plenty of daring ideas, passion, and amazing concepts for new fields of growth and business models.
- 2** Now add innovation and stir well. Don't worry: You don't have to be stingy – feel free to add as much as you like. Try thinking outside the box.
- 3** Good ideas take time – and they need the right methodology. That's why you need to add the design-thinking approach: This reveals the user's perspective along with their hopes, needs, and goals. It will help you to stay creative, innovative, and close to your clients.
- 4** Speaking of clients: They are your secret ingredient, the key to making sure your recipe succeeds. You could say that they are the cherry on top of the cake. Customer centricity is therefore a vital ingredient in any secret recipe for digital evolution. So, what exactly is this special ingredient? Simple: Sales and marketing concepts that put the customer – not the product – in the spotlight
- 5** Finish with a garnish of future-oriented thinking and you're done!
Serve while hot and share with as many people as possible.

**Bon appétit! We hope you enjoy
savoring the concepts for the future!**

» MOTIVATION FOR INNOVATION «

CREATING LIVING VALUES

GREEN – MORE THAN JUST A COLOR

Almost everything we now know about the universe – and with it, the stars – has been learned from light. One thing we can all agree on is that starts are yellow, white or, at the very least, orange. So, what, may we ask, is a GREEN STAR? It is the name of a marketing instrument for quality, environment, and energy management systems. A company's public perception is not the only way to showcase its innovation. Here, at STAR, our goal is therefore to make our in-house processes as green as possible, too. Having our environment management system certified according to DIN EN ISO 14001, and our energy management system certified in line with DIN EN ISO 50001, shows our clients, employees, and stakeholders that we systematically manage our environmental

LOOK – THINK – FEEL

GREEN

work and energy efficiency and bear responsibility for our planet. We also pursue a continuous improvement process with annual audits and periodic re-certification procedures. Having an environmental management system in place (involving processes like adjustment and maintenance, etc.) means that environmental awareness is also a top priority at STAR FACILITY and helps bring our green motto to life. With our GREEN STAR staff work group, we put our STARS in charge of resource-efficient and sustainable thought and action. We're also constantly on the lookout for new, motivated staff to help us bring sustainable ideas and concepts to life.

» LOGISTICS MADE IN THE USA «

Both vehicle literature and supplied parts suppliers will remain on the agenda for the year ahead. Furthermore, the strategic client portfolio in the field of logistics and sequencing is also due to be expanded with two additional OEM accounts: We're talking about STAR's US office. The US branch is thus well equipped to continue to establish itself as a hub for our logistics and media STARS in the NAFTA region, while also impressing new overseas clients with our service portfolio.

A SITE WITH A FUTURE





STATE-OF-THE-ART SALES

» FUTURE-PROOF SALES APP «

Over the past three years, STAR COOPERATION has been enhancing a native iOS app originally designed for a client in the pharmaceutical industry. Digital sales, a future-oriented brand presence, up-to-date information, and central content management are all requirements that need to be met by a current sales app. The latest version of this native iOS app from late 2017 has now been adapted to the

STAR design and optimized for our own sales process. The result? A personal front end with characteristic functions, combined with an innovative back end with content and a separate CMS.. This will also allow things like 3D apps or Office documents to be integrated with ease and managed centrally.



» SOFTWARE SOLUTION FOR INTERNATIONAL UPDATES «

STAR provides a workable result: A universal software solution that enables the client to make their own corrections or adjust their own content in a web browser and then transfer this to the original file? Sounds too good to be true! And our STARS aren't resting on their laurels: For our client – a full-line provider in the European omnibus market – the task was to create regular central actions and then adapt these online to specific countries, without having to install a special piece of software. From preparing the system and creating the master data for the German market (including print data) through to managing production, our experts worked on their solution around the clock to make sure they impressed the client – and provide them with a simple way to conduct business all over the world.



MULTICHANNEL MARKETING STRATEGY

» DESIGN, CREATION, AND REALIZATION «

» The new European data protection regulations pose a number of challenges for companies. However, the changes also present a number of opportunities for our industry. The key is to see these challenges for the opportunities they are, and use them to improve as best as possible. «

**BENJAMIN
HILLSCHER**
GENERAL MANAGER
SENSE & IMAGE

It's time for a new marketing strategy. This is what our client from the pharmaceutical industry said when they wanted to update their existing content from their apps and newsletters. To help them achieve this, our STAR experts designed, created, and realized an online campaign using a marketing automation tool. They also created graphic representations of our client's data as a free additional service.

This step was followed by the technical implementation of a marketing automation tool and the integration of forms using Google Forms. To be able to record user behavior more effectively (an essential process in our current climate), the structure and content of the website was restructured into a more practical design. An initial newsletter would also be used to track users. To achieve all this, our STARS created a sophisticated network of digital and analog measures, which brought our client's sales measures up to a whole new level.

» A MUST-HAVE IN TODAY'S LOGISTICS INDUSTRY «

The area of logistics is currently tackling the ever-growing challenges surrounding "supply chain visibility" – in other words, ensuring sustainable transparency in global supply chains by integrating and consolidating relevant process partners and data throughout the entire network structure. After all, a high degree of transparency concerning stock levels, the flow of goods, and process partners helps to establish proactive mechanisms and significant improvements in the fields of planning, resources, and process stability. This results not only in fewer nasty surprises – but in more satisfied customers, too. Aside from the area of package distribution to the end customer, supply chain visibility is also of particular interest to corporations. For them, it is important that their goods are constantly on the move. However, this is only possible when the data that affects the influential factors in the supply chain in question is consolidated into a control tower and made available to all those involved, thus enabling it to be analyzed and evaluated (centrally). From weather to traffic: The more data you have, the easier it is to respond to certain circumstances that arise in the goods flow environment. The task is to look into the various variables and weigh them up in a proactive risk management process to decide whether they pose a risk to the goods flow in question.

» TRENDS IDENTIFIED BY OUR MARKETING & SALES EXPERTS «

SUPPLY CHAIN VISIBILITY

In an age when it is easier to order items over the Internet than ever before, we will all one day encounter the tricky situation of not being at home when an item is delivered. A number of delivery companies have already come up with solutions that allow the client to break the chain in a deeply standardized process. Whether it's tracking their package or granting permission for goods to be deposited in their garage, customers are enjoying an ever-increasing range of options.

For variables that are a risk, measures need to be applied effectively and, if possible, automatically to ensure a maximum degree of efficiency and make sure staff are only deployed in genuinely critical situations – the principle that guides this approach is known as "managed by exception".

Problems tend not to reveal themselves until the supply chain is as transparent as possible. The more effective this is, the earlier disadvantages or errors reveal themselves, allowing you to respond more quickly. This is when you know you have achieved supply chain visibility. This concept is essential to make sure that processes are applied across the various functions and that interfaces are clearly defined. To allow key data to be delivered in real time, IT landscapes and data systems are standardized across all those involved in a supply chain.

Although the quantity of data plays a major role in the elimination of possible disruptive factors, this alone is not the key to success. Another key aspect is to ensure that the specific system landscapes extract only relevant data, aggregate it, and then evaluate it at the same time within the context of the individual underlying conditions and risk structures. The challenge therefore lies in consolidating the right data from the systems at time X and linking it all together in an intelligent manner. As a result, a piece of information about "package 1" linked

to "package 2" can help to generate "piece of information 3". A decision must be made as to when this record is made available and to whom in order to create the necessary scope for response. If this logistics-related information is then passed on to marketing, "piece of information 3" can be used for smart results. Bringing these two fields together enables a company to tap into brand new marketing opportunities for the future of sales. Even now, it is quite obvious that these marketing opportunities – which are the result of trends like the culture of feedback, specific user recommendations, and recommended guidelines – will soon be affecting the way we shop. Traditional organizations, like the Schufa credit agency or TÜV technical institute in Germany, could soon be replaced by new digital assessment models. The fact that the flow of goods around the world is constantly on the rise poses a major challenge to a number of companies. Combine this with the fact that batch sizes are shrinking as low as one (even in the B2B sector) without capacities developing in proportion to this and you have an even bigger problem. More and more intelligent solutions are needed:

- To ultimately be able to accommodate customers and automatically analyze logistics processes
- To establish long-term transparency and use staff effectively and efficiently in line with the "managed by exception" approach

This is why the logistics unit at STAR gives clients the chance to break away from the status quo and learn to analyze their logistics processes automatically. This helps to cultivate long-term transparency, while also using existing staff effectively and efficiently thanks to "managed by exception".



ADVISED.
PLANNED.
DONE.

ONLY LASERS ARE QUICKER

» WHEELS, TIRES, LOGISTICS «

Faced with a high potential for growth in logistics for wheels and tires, combined with growing warehouse structures, a major automotive company from southern Germany decided it was the ideal opportunity to shake things up in their logistics processes. Our client's goal was to efficiently consolidate storage areas, reduce the number of interfaces, increase flexibility, and ensure process transparency between all parties involved in a project. The task facing the logistics experts at STAR COOPERATION was

to work with the client to develop a holistic logistics and service concept, safeguarding growth and innovation in this field for the future.

This involved building and renovating two new sites, planning and building a tire shelving unit that was geared toward the entire process, and redesigning all processes from the ground up. As a result, over 6,000 square meters of storage space can now be used more efficiently to look after over 10,000 items. Ongoing optimization has also been ensured thanks

to STAR's responsibility for warehouse operation, component assembly, seasonal tire changes, and tire center supply. STAR's interdisciplinary approach – combining consultancy, planning, realization, and operation – meant that the client could enjoy one comprehensive solution offered by a single source. Our STARS' sound knowledge of problems specific to logistics and quality assurance was a key factor in the success of this major project: The client received a custom-made concept with the highest standard of quality and maximum cost effectiveness.

» 6,000 m² hall «

» 2,000 tons of warehouse material «

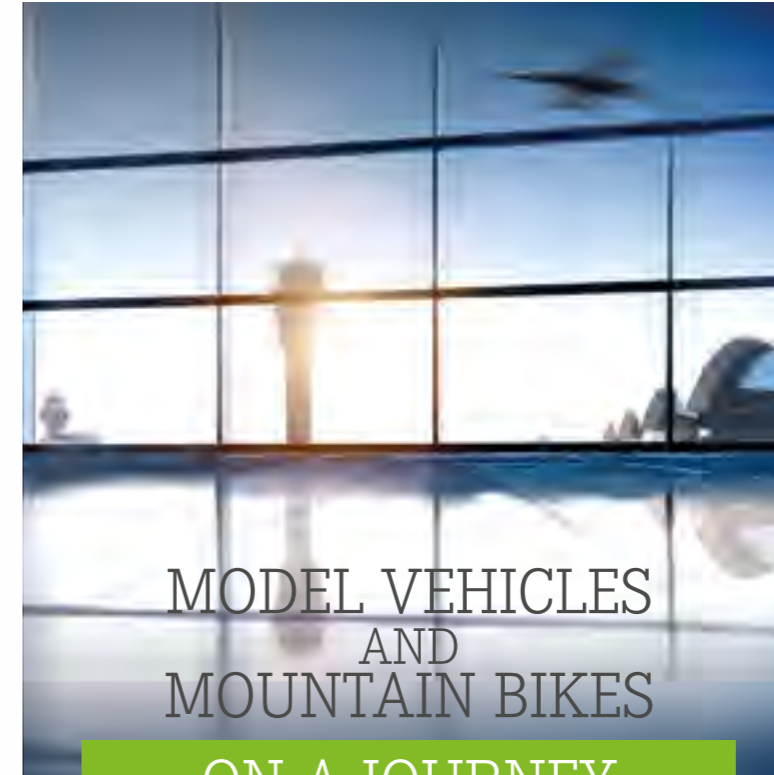
» 8 weeks of renovation work «

» 600 meters of profile depth «

» 118 tons of steel «

» 180 km of tire tread «

» To harness 8 million hp «



MODEL VEHICLES AND MOUNTAIN BIKES

ON A JOURNEY AROUND THE WORLD

» GLOBAL LOGISTICS CONCEPT «

» LOGISTICS SERVICES «

A major international commercial vehicles group commissioned STAR to be their logistics service provider for the worldwide distribution of merchandise. Sending model vehicles, clothing, toys, accessories, mountain bikes, and bikers' jackets from the online store to international B2B and B2C customers? Not a problem for our STARS!

Not a problem for our STARS! First things first, the team began by developing an overall concept for the ordering, processing, and invoicing workflows before it could start processing orders on the online store – which was available in five languages by then. To keep everything running smoothly, STAR runs a consignment store for around 30 or so merchandise manufacturers at the warehouse in Stuttgart-Obertürkheim. Two key factors helped to bring about a seamless implementation and go-live phase and the launch of new innovations while also ensuring high-quality processes: The opportunities for expansion and 100% customer satisfaction.



ALEXANDER SCHÜLEIN

MANAGING DIRECTOR
STAR DISTRIBUTION

» If we were to name one trend that will accompany us through 2018 in the field of logistics, we would say custom-made concepts for control solutions based on systems and data. We are working on consolidating material flows and master data on suppliers and logistics service providers with information on production, products, and customers to form something known as a supply chain control tower. By combining external and internal data and using big data, our clients are therefore able to control parts of their business in real time «

» INSIDE STAR INSIGHT «

Respected artists, private viewing events, BMX world records, graffiti, music, and a passionate and excited audience. When you've got all these things in one place, then you know that STAR Insight has arrived.

An array of incredible events from this popular program was once again ready and waiting for guests in 2017. To get the series off to an exciting start, Esslingen-based artist Werner Fohrer addressed this timely question to the world of art in February: How is the digital revolution changing the perception of art in the eye

of the beholder? STAR Insight 2 arrived in May, giving guests the chance to try their hand at street art. By midday, the graffiti artist Simon Löchner was already spraying the side wall of the workshop in Sindelfingen. He also prepared canvases so that visitors could use templates to create their own car-inspired graffiti. One of the highlights of the evening was the successful world record attempt by BMX acrobat Chris Böhm in BMX spinning. As a crowd of excited spectators watched on, he defeated his Japanese rival with a total of 38 spins. The third STAR Insight event went by the name of "Below the Surface",

an exhibition by the versatile artist Helmut Anton Zirkelbach. The title provides an insight into his characteristic approach to art. By scratching, shaving, and etching, he literally gets beneath the surface of his materials.

This successful event was followed in October by the fourth and final event in the 2017 series: STAR Insight 4 saw journalist and SWR presenter Stefan Siller speak to Edzard Reuter, former CEO at Daimler AG, about literature, life, and much more.

SPEED DATING FOR LOCAL START-UPS

For two long weeks, the whole city was focused on innovation and the future of industry. In cooperation with Böblingen Business Weeks event, STAR once again organized a START-UP DAY for 2017, which it hosted at the city's Hulb venue. The event also saw the winner of the Start-up Award named for the third year.

Here, young businesses from the region of Böblingen, Stuttgart, and Ludwigsburg had the chance to present their ideas in the form of an elevator pitch in an attempt to win over guests. Prior to the event, a jury of mentors decided which start-ups would make it through to the final. During the five-minute pitches, start-ups outlined their business model to potential cooperation partners and investors. Using this approach, STAR is hoping to promote the many exciting projects on the start-up scene in and around their headquarters in Böblingen, while giving entrepreneurs a valuable platform for networking. After all, this is the only way to turn innovative ideas into more than just pipe dreams.

» PROMOTING THE START-UP CULTURE «

EVENT HIGHLIGHTS 2017

- Automotive Ethernet Congress February
- STAR Insights February, May, July, October
- Embedded World Trade Fair | March
- CEBIT Trade Fair | March
- Expert Days March, May, October
- STAR DAY | March
- Shopware User Group Meeting | April
- Electric Hybrid Trade Fair | April
- Opening of Kornwestheim Site | April
- Engineering Technology Event | April
- In-House Electronics Fair | May
- Göppingen Local Fair | May
- Business Breakfast | May
- bvik Conference | June
- Fashion Marketing Congress | September
- Congress at University of Stuttgart | September
- BI Conference Munich | September
- STAR-Up Award | October
- ELIV Trade Fair | October
- KVD Service Meeting | October
- LUK Trade Fair | October
- In-House Digital Engineering Trade Fair | December

» SUCCESSFUL STAR APPEARANCES «

MARKETING AUTOMATION, VIRTUAL REALITY & CO.



Internet of Things, disruption, 4.0 this, smart that. The field of marketing is currently confronting new challenges – and they have to be tackled quickly. How do you reach and then hang on to new leads and customers in the age of digitalization and customization while also dealing with ever-shrinking budgets and shorter prod-

uct life cycles? The STAR Expert Day provided answers to questions on the topic of "Digital transformation in marketing" with expert lectures and a customer interview, which represented an example of a successful digitalization project. The Expert Day event also went on tour when atec innovation visited Motorworld in Böblingen in May 2017. The team of experts from STAR and atec set up three stations with the tagline "Capture Reality – Humans in Virtual

Reality", which demonstrated the exciting opportunities offered by virtual reality. They focused on the issue of how humans are integrated into the virtual world. A highlight: Visitors could immerse themselves in current projects and test the technology for themselves. This included areas such as architecture, where users could experience building modeling, and presentations from the automotive sector.

» THE POWER OF COOPERATION «

AN INSIGHT: PARTNERSHIP IN AFTER SALES



» STAR COOPERATION DOESN'T JUST USE THE POWER OF SYNERGY FOR ITS IN-HOUSE PROJECTS. NEW PARTNERSHIPS IN AFTER SALES IN 2017 HELPED TO CONSOLIDATE KNOWLEDGE AND POOL EXPERTISE FOR INNOVATION AND SUCCESS ON BOTH SIDES. «



The start-up 5Analytics from Stuttgart is dedicated to the field of artificial intelligence. The company's data scientists have developed a piece of software that enables AI algorithms to be automated and easily integrated into corporate processes. Working with 5Analytics, the consultants at STAR are therefore able to efficiently implement issues such as recommendation management, micro communication, predictive analytics, predictive maintenance, dynamic pricing, and lean fraud detection for their clients.

The future of pricing is dynamic. In the future, prices will no longer be adapted several times a year. Instead, they will be updated on a daily basis or even continuously. This calls for companies to run powerful pricing software. And this is precisely where Pricef(x) comes in. Working with Pricef(x), STAR is able to apply complex yet very profitable pricing models for its clients.

Big data approaches enable marketing decisions to be automated: The system automatically generates the ideal price. Customers are contacted with carefully selected product offers, and corporate communications are customized. DXC supplies the software while STAR supplies the algorithms. Together, we help companies use big data to provide better support for their customers while still remaining competitive.



» CYBERONE HIGHTECH AWARD 2017 «



So far, the CyberOne Award has managed to generate over EUR 275 million in venture capital and around 500 jobs in Baden-Württemberg. The award has been attracting technology-oriented start-ups and companies with future-ready concepts every year since 1999. Local innovation driver STAR was part of the event again this year, acting as a gold sponsor

and providing particular support in the area of media preparation. This included funding various communication measures in order to give the competition the platform it deserved. The CyberOne Awards jury agreed on one point, in particular: The quality of the submissions is higher every year and performs at an advanced technological level. As a result, it was

particularly difficult for the company representatives to elect a winner for each of the three industry categories. But by November 13, the decision had been made: Three promising start-ups could enjoy EUR 10,000 in prize money as well as plenty of media attention.

THE FUTURE LIES IN BODY-WORN TECHNOLOGY



TWO DECADES OF PROGRESS:
ONCE REVOLUTIONARY – NOW ORDINARY



Ever since it first discovered technology, the human race has been trying to make it portable, so that we can still enjoy progress while out and about. In the 1990s, the most common wearable technology was the Discman, the follow-up to the Walkman. In 2004, the first GoPro was launched, revolutionizing the recording of (amateur) videos. With Google Glass, we will be able to carry a mini-computer on our heads. Another huge trend is the Smartwatch, a common sight on many wrists these days. As we become ever more networked, we may soon be able to experience others' vital data live – a development some may regard with skepticism.

“LIKE” STAR:

BECOME A FAN AND FOLLOW ALL THE LATEST HIGHLIGHTS

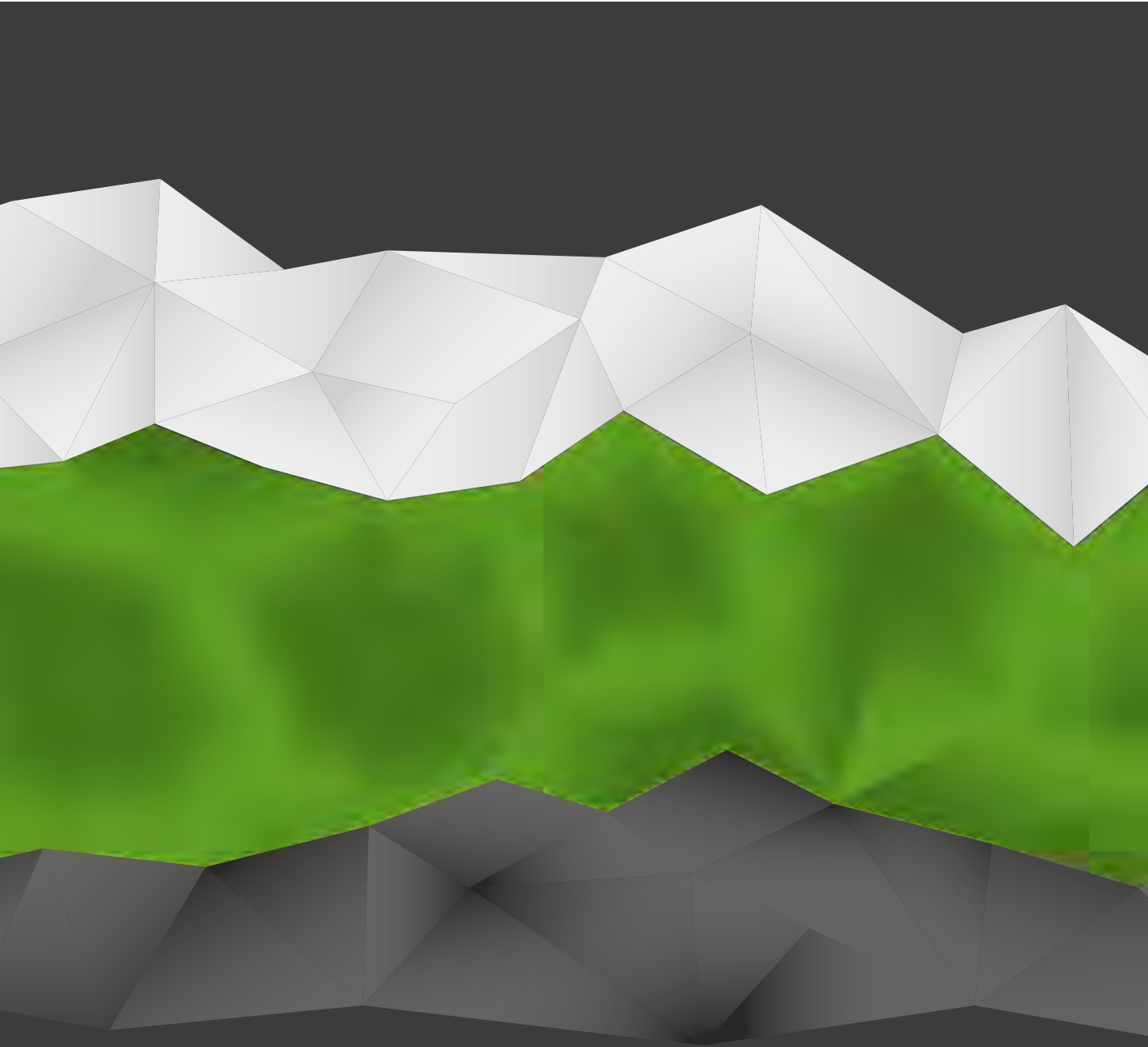


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