GEANOVA

THE NEW GEALAN





GEANOVA

6 Longer work days – more days off

In Tanna, (time clock) time is measured differently, ever since GEALAN introduced an unconventional shift model with broad support by the workforce. Andreas Grüner appreciates the benefits offered by the time model. GEANOVA met him and his daughter Lilli while summer tobogganing together.

12 COVER STORY

Master of Materials

Dr Michel Sieffert heads the Research and Development department at GEALAN. Talking to the passionate chemist, it rapidly becomes apparent that laboratories and kitchens have plenty in common. Sieffert feels right at home in both.

17 / 29 GEADATA

GELEAN in figures: Employees, trainees, sites, sales, and investments

18 Puzzle for the future

'If we fail to be innovative, the day will come when our company no longer exists', Ivica Maurović says. The managing director explains how GEALAN puts together the innovation puzzle from many individual pieces.

22 Technology centre

In Oberkotzau, GEALAN renovated former production halls to bundle skill sets, reduce distances and create the right work atmosphere. A photographic tour.

30 'It's a good thing that we're staying here.'

Fränkische Volksfestwirt GmbH was founded in 2012. GEALAN has been celebrating with the people from Hof since 2017, bringing along guests from all over Europe.

32 The Digitalists

We have long since passed the initial phases, but we are still a long way off from being able to say we have completed everything – GEALAN is in the midst of transitioning to the digital era. GEANOVA introduces four movers and shakers who are shaping the company's digital vision.

38 Interview

Prof Dr René Peinl (Hof University of Applied Sciences) is collaborating with GEALAN. In an interview with GEANOVA, the commercial computer scientist talks about joint projects and the exchange between researchers and users. He also explains why everything digital is not necessarily the same as digitalisation.

40 Digital Natives

Young GEALAN employees and trainees get together for a meeting every Thursday. They develop ideas, trigger impulses and write down concepts. Their perspective of digital matters is considered relevant and is incorporated into GEALAN's future strategy. GEANOVA shows what the digital natives have already set in motion, and what they are still planning to realise in the future.



42 Imprint and Legal Notice







ear Reader.

our environment and our industry are undergoing rapid changes. Therefore, we once again

have to ask ourselves what our customers and our employees expect from us. We must scrutinise our values and develop new strategies to achieve our goals. Above all, we need to ask ourselves the following question: What do we, as a company, stand for? Our management team has given this question a lot of thought. GEALAN would like to inspire people with innovative products, high-quality surfaces and digital solutions – this is our answer.

Each individual at GEALAN should know what important contribution he or she can make towards attaining this goal. We have identified four strategic priorities: employees, growth, innovation, and efficiency. A set of measures with measurable indicators ensures that these four terms are more than just pretty words. We have integrated 'Innovation mit System' (Systematic Innovation) into our logo, because we want to communicate our commitment to momentum and competence to the outside world. When it comes to innovation, we are not merely talking about products: We are talking about material development, new technologies and digital business models; we are redefining processes, improving quality, optimising cost structures, and keeping an eye on the environment.

GEALAN is an international company with focus on Europe and Russia. We have grown steadily in recent years and we believe that this positive message must also be spread to our home region, High Franconia and the Vogtland, Thuringia, Bavaria, and Saxony. GEALAN has been part of the VEKA Group since 2015. As part of a two-brand strategy, it can operate freely and develop its full potential. We would like to tell people about interesting GEALAN stories — that's why we have issued our new GEANOVA company magazine, the first edition of which you are holding in your hands.

GEALAN develops products and services that successfully satisfy the challenges posed by competition and digitalisation. And GEALAN is able to bring these products and services to market rapidly. We reinvest our profits in projects that help us forge ahead in the long term, and make us an interesting employer. In Oberkotzau, we will redesign all administrative areas, implement new office concepts and create open communication zones. The result: more space and more freedom for creativity. The managing directors' offices will be turned into 'Innovation Labs'. Our new training room is completed and offers space for fifty people; this is where GEALAN will exchange ideas with architects, window manufacturers and people from the industry. In Tanna, the laminating department has undergone extensive refurbishing; we have introduced digital solutions in the extrusion department to optimise production and quality control. We are building canteens at both German locations where people will love to spend their time. In 2017 and 2018, GEALAN invested 15 million euros per year; 4 million euros alone was invested in the new technology centre in Oberkotzau and, since 2016, 6 million euros into the introduction of SAP ERP software.

In shaping our working world of tomorrow, we involve those persons who should feel comfortable in it: our employees. Workshops and surveys provide valuable suggestions from different perspectives. The GEALAN specialists devote their full attention to training and further education, which are focal areas for the company. Internally, regionally, and across Europe – knowledge and networking are key to our success as well as that of our customers.

We are not revolutionaries; we are evolutionaries in an extremely interesting, technically-focussed company. Window profiles fascinate us. But what fascinates us even more is what our window systems create worldwide: beautiful objects and customer satisfaction.

We hope you enjoy reading our first edition of GEANOVA!

Ivica Maurović

Tino Albert





Tanna is a little town in Thuringia. About 3,700 people live here, and about 530 people work here at the site with the biggest number of employees in the GEALAN Group. In 2018, approximately 53,000 tonnes of window profiles were produced in Tanna. The inhouse mixing plant uses raw materials (polyvinyl chloride, titanium dioxide, stabilisers, and additives) to produce the starting material that is required for manufacturing thousands of differently shaped profile strands in the extrusion process. In the extruder, two counter-rotating screws mix the material, which becomes flowable as a result

of frictional heat, and thereby changes from the powdery to the plasticised state. A matrix gives the material strand its specific contour. GEALAN is the largest European company to master the coextrusion of coloured PMMA (acrylic glass) and PVC: The two materials are inseparably joined to form acrylcolor, a scratch- and weather-resistant surface of outstanding quality. Annually, approximately 13 million metres of profile surface are finished in the laminating department - with coloured films or wood décor films. GEALAN delivers the 4.8 to 6.5 metre long profile bars from Tanna throughout Germany as well as to the Czech Republic, Austria, Italy, Croatia, Slovenia, Hungary, France, Portugal, Spain, Belgium, and the Netherlands. In 2018, **GEALAN** customers ordered approximately 36,000 different product variants. GEALAN acts as system provider and defines for each profile bar how fittings, glasses and mounting materials should be installed by the window manufacturer.



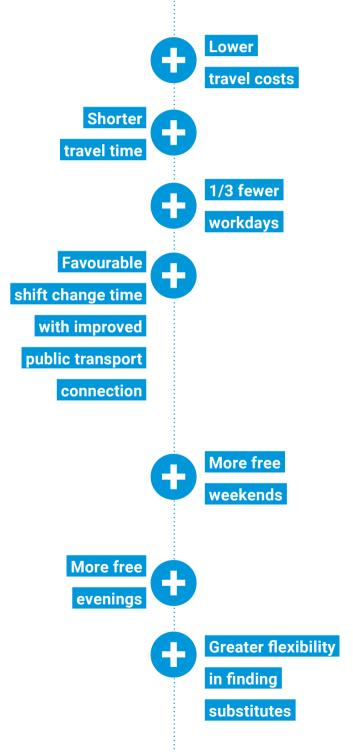
'The shift model is a concession that is targeted at promoting worklife balance', says production manager Thorsten Eichner. 'It offers more days off and longer leisure periods and recovery phases. Evidence that the shift model is considered to be successful also becomes apparent in the recruitment of new employees. The benefits definitely convince many applicants.'

It gives Andreas Grüner more flexibility to organise his visits to authorities, physicians or workshops. 'I work at GEALAN for two days and can then use two days for other things. I built a house during my leisure time. And I see my six-year-old daughter much more often than would have been the case with other shift plans. Sure, it's tricky if you want to party every weekend, but this is true for every shift model.' Apart from this, there also is a financial and ecological advantage: Fewer work days mean fewer trips to and from work. For Andreas Grüner, it's 40 kilometres round trip, and many of his colleagues have to travel even further. In GEALAN mode, they spend less time on the road and refuel less frequently, which is good for their cars. 'I can't remember anyone ever quitting the job because of the longer work days', Grüner says. You have to explain the benefits of the model clearly; then you will have convincing arguments.' And he can also benefit from shift work itself: 'Everything is taken care of and well-organised. I know where I am working and what I have to do. And I also know when I'll be home. I walk in wearing clean clothes, and I leave wearing clean clothes, because I can shower at work. I have also worked installation jobs, used to be on the road a lot, and had to work outside, regardless of the weather. Here, it's always nice and warm...'



GEALAN is building a three-storey building in Tanna for 2.5 million euros, which will house offices, a training workshop and a canteen.

In 2003, Andreas Grüner, a trained plumber, started his career at GEALAN as a lateral entry employee, where he initially worked as an assistant performing auxiliary tasks before moving on to become a controller and eventually a machine operator. 'I was gradually introduced to the machines and then developed my skill set further. Today I can fill any position in the department. I became a deputy shift leader in 2011. The 40-year-old organises the shift, manages the employees and is responsible for their holiday planning. GEALAN prepared him for his responsibilities with training courses. 'I am happy to work in this position, and happy that I can realise my potential. My goal is to become a shift supervisor and then perhaps to continue my training to become an industrial foreman.' Many high performers at GEALAN started out small - as temporary workers or following an unsolicited application - and have grown within, and together with, the company. This did not happen by accident: GEALAN introduced a multi-stage model in 2017: 'We want to enhance the skills of our employees through qualification training', Thorsten Eichner says. 'Those who are committed, can climb the career ladder step by step and also benefit financially. We reward theoretical knowledge and practical application. The path to a higher qualification level can be reached through courses and examinations.' There is always a need for qualifications at GEALAN - this is due to advancing technical developments, age-related fluctuation or constant growth. It goes without saying that GEALAN is also a training company - process mechanics, machine and plant operators, fitters, as well as (soon) electricians. Between 10 and 15 trainees start in Tanna every year. Thorsten Eichner: 'We invest a lot of manpower in training and would like to employ even more career starters.'





Eichner himself is a prime example of what is possible at GEALAN: After completing his studies in 2013, the wood technology engineer joined the extrusion department as an assistant to the group leader. 'Technically, this was new territory, because there's quite a difference between wood and plastic. But I applied myself, became a department head and, by the end of 2016, was promoted to Head of Production.' At only 34 years of age, he is responsible for developing strategies and making investments

in addition to dealing with the industrial changes on the horizon. Within the team, he focuses on clarity and openness, regardless of whether the topics at hand are positive or unpleasant. 'For me, communication at eye level is very important in order to find joint solutions. I don't beat around the bush, and I take a direct approach. We don't look at problems from the top down; we get broad input from every level. Everyone can express their opinions and make suggestions for improvement.'



GEALAN distributes special annual bonuses and shares in profits, consistently implements occupational health and safety measures, supports its workforce with capital-forming benefits and a pension plan, and it has set up programmes for employee discounts and e-bikes. 'The company is doing a lot', says Andreas Grüner.

will not encounter any barriers. With us, all doors are open.'

Thorsten Eichner





MASTER OF MATERIALS

P

eople say that good chemists are also good chefs. Dr Michel Sieffert agrees. With the GEALAN research and development department, his mission is: finding the best ingre-

dients, developing intelligent formulas, and working on the most innovative blend with the perfect texture. GEALAN's plastics laboratory is like a good kitchen.

Everything begins with the quality of the ingredients. Just like every good cook only uses the best ingredients, GEALAN only buys raw materials of the highest quality. 'We source our raw materials from the chemical industry and mix them to achieve the performance we want', says Dr Michel Sieffert (49), Head of Research and Development. Of course, polyvinyl chloride is the largest component needed for producing PVC window profiles. When it comes to the other ingredients, things become more specialised. This is because many additional components are needed to turn PVC into the raw material required for GEALAN profiles. 'The big secret is in the additives.'

Titanium dioxide for the white colour, high-quality chalk, which not only serves as a filler but also affects the subsequent PVC profiles' mechanical properties, acrylate modifiers that promote the material's impact strength, colour-preserving stabilisers that keep the plastic stable for a long time during production and also afterwards: all these are additives whose quality is strictly controlled by GEALAN. Rice can be used for a variety of dishes from risotto to sushi – depending on the variety a cook uses, the cooking method, and the ingredients and spices added. Similarly, the right additives are needed to produce the PVC formula, which in turn, only becomes the GEALAN profile via extrusion.

Mixing possible:
Dr Sieffert has
a knack for new
formulas.
The GEALAN
mixing plant
creates innovative
materials.

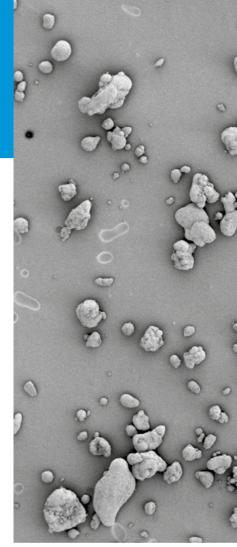
'Everyone adds salt to their soup, but does this mean that all soups are equally good? No! On the one hand, we do research and development to increase our products' performance and, on the other, to increase their cost-effectiveness.'

The research and development department is not constantly creating new formulas for different profiles, but it is always on the lookout to find the one formula that will cover all processes - 'Process range is the major challenge', Dr Sieffert says. The production provides many framework conditions. The material's flow property, the so-called rheology, is crucial: It must flow in such a way that it can be processed smoothly and consistently on all extruders. It must also separate properly, meaning it may not stick, and it must be pliable so that it can be processed with all tools. 'If I use a different type of flour for my pancake batter, I might have to use more milk or more eggs to get the same texture.' There is a huge range of possibilities to change formulas and to optimise every single component. The point is: Changing one single detail will impact the whole. Anyone who is even a little bit interested in learning about chemistry is fascinated by this interaction. It is a complicated juggling act, which Dr Sieffert and his department are mastering successfully: To combine PVC and additives with different properties in such a way that a formula is created that better satisfies all production factors and complies with all the end product's requirements – a formula that is new and innovative within narrowly-defined limits. Creativity and concentration, experimentation and diligence, risk taking, and paying attention to detail: all of these factors have to be harmonised. The result are innovations like acrylcolor - the inseparable combination of PVC and coloured acrylic glass is extremely weather-resistant and one of GEALAN's USPs.

Cooking together is more fun. This also applies to the plastics kitchen. GEALAN works with partners and suppliers from the chemical industry as well as their suppliers to develop material innovations. In a highly competitive market, it is all about contracts, exclusivity, patents, and the ingredient the competitor does not have. Yet, at the same time, it is about economic efficiency. Its price will only drop if others also buy the ingredient. GEALAN prefers to play with an open deck. 'it is impossible to discuss matters with partners who keep everything secret. It can help make the breakthrough and allow a product to unfold its potential. That's why we prefer to work with partners who are creative and free.'

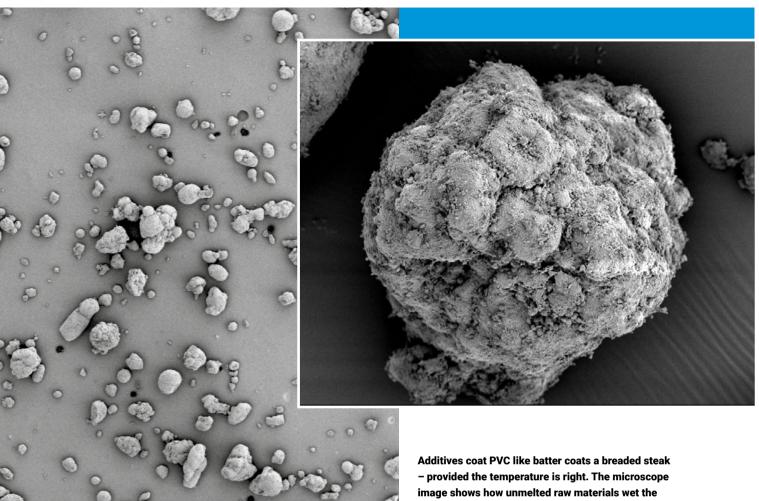
Freedom – for Dr Sieffert, this is why he works for GEALAN. The son of French parents was born in Switzerland and raised in Italy. He studied chemistry in Strasbourg and received his doctorate in supramolecular chemistry at the Max Planck Institute for Polymer Research in Mainz, where he had every imaginable career option. In the mid-90s, he could select any path to join the renowned chemical industry of the important chemical centre: Germany. He did not. 'I looked deep inside myself and realised that I would like to work for a medium-sized company. I wanted to keep my creativity, my free approach to thinking, and create something new.' The fact that Dr Sieffert has been with GEALAN for 14 years

'I enjoy eating and drinking fine foods and beverages, and I like when they are combined, but always as a gourmet, never as a gourmand.'



says a lot about the innovative spirit and the level of liberty offered in the research and development department.

To no surprise, the chemist is passionate about good food, the endless opulence of Italian cuisine from Lombardy, where he grew up to Sicily; about the influences his parents, who emigrated to Italy, brought along from their homeland, Alsace; about the dishes of Burgundy; about the Maghreb influences in Italian and French cuisine, but also about Upper Franconian delicacies such as roast goose or meat served with horseradish. When he cooks for friends, he may prepare Moroccan-style couscous with lamb or poultry. The gourmet also experiments with unusual combinations - for example, combining influences from Italian and Upper Franconian dishes: 'I've often had success.' As someone who knows many pleasures and speaks five languages, Dr Sieffert has an interesting vocabulary for combining the ingredients: you have to marry them, he says. He is distinguished by his interest in experimenting and the search for the ideal marriage of ingredients - not only in his kitchen, but also in his professional activities. He has a profound enthusiasm for PVC and its myriad of possibilities, since the right additives turn this unusual plastic into what it is intended to be for GEALAN: a profile material of the highest



provided the temperature is right. The microscope image shows how unmelted raw materials wet the warm and soft PVC. In the mixing plant, the formula is physically homogenised – in other words, it is stirred until the PVC coating is perfect.
 Cooling stabilises the state.

quality and with amazing features. 'PVC's mechanical properties are unbeatable' – it is flexible and impact resistant; it can absorb shocks; it can be sawn, cut, screwed, and drilled without splintering; it is weldable, dimensionally stable and durable. No other thermoplastic matches this capacity without requiring major modifications. For each individual property there are standards that need to be complied with. GEALAN is working to not only meet, but exceed these standards.

When GEALAN Research and Development makes a change to a formula, it is mixed in a small mixer, extruded on a laboratory extruder, then scaled-up to production machines and tested extensively for rheology, colour,

'Innovations are made by people.

They need creativity and the freedom offered by their company to realise these innovations.'

weldability, and impact strength. For example, it is artificially weathered and exposed to UV radiation and cold temperatures. We have developed highly stabilised, highly UV-resistant profiles especially for southern Italy and other sun-spoiled regions. When it comes to a major change in material, GEALAN consults universities and institutes and dives into basic research to find out exactly what happens in the material when it is freshly extruded, and what happens on in the long-term. 'Only after obtaining all this information can we better understand what we can change with our suppliers. We need the feedback.' Of course, it's not true that many cooks spoil the broth. Not when the cooks are intelligent.

GEALAN has been extruding window profiles for more than 50 years. During this time, it has gained expertise at many levels in material development but also at the other end of the production chain: recycling. The company recycles its own production waste, but also PVC obtained from old windows – in total almost 20,000 tonnes per year, and counting. An in-house recycling department is responsible for returning the material to the production cycle in the form of granulates. A complex and expensive matter, because the recycled material must not only be homogeneously granulated and of consistent bulk density; it must also be

'I feel more European than French.

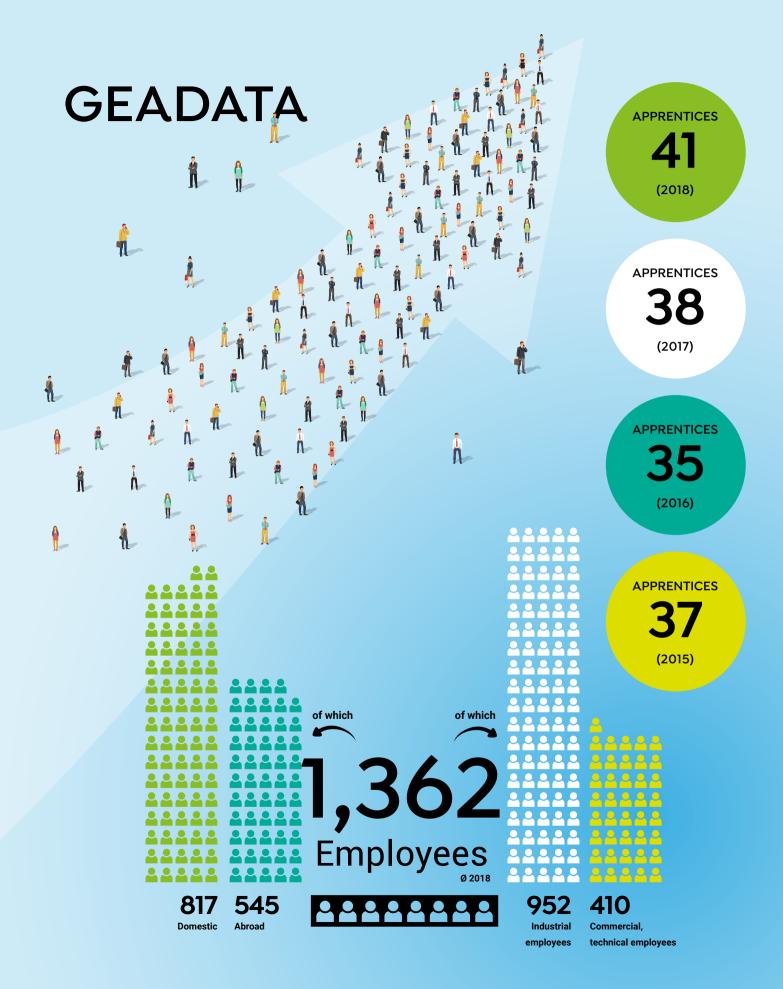
But I'm happy when France
becomes world champion.'

extensively processed before being introduced into production via coextrusion. 'We have to be smart about the recycled material; we don't accept any inferior quality.' The recycling material is subjected to the same tests used for fresh material. 'It's not waste; it's raw material', Dr Sieffert emphasises. Many materials can be recycled, but only to products of inferior quality. PVC is different: PVC profiles become PVC profiles again. 'We are talking about a product with the highest longevity.' In addition to its outstanding material properties, this sustainability will ensure the legitimacy of this special plastic in the future. 'GEALAN is committed to recycling out of full conviction, and our customers use this sustainability aspect to promote the products.'

Whether in the kitchen or in the plastics laboratory: Creating food and products is not an end in itself. The customer must enjoy the product and find it useful, and the focus of our work is to meet customer demands. To do this, Dr Sieffert's department works with creativity and a sense of responsibility. What holds true for PVC also applies to the spirit within the company and to the relationship with partners and customers: The chemistry is right.

'I feel right at home at GEALAN,
where we are willing to experiment a lot.
There is always something new to do,
a lot of freedom to experiment,
and, naturally, also responsibility.
This is exactly what I wanted.'







INNOVATION:



THE PUZZLE FOR THE FUTURE



he search for the part that fits perfectly, the concentrated experimentation, discarding what does not work, finding what does, the assembling and, ultimately, the moment

when thousands of parts come together to create a flawless picture: Innovation is a fascinating puzzle. GEALAN gets down to it.

Completing a new puzzle requires space, an empty table and an uncluttered mind. GEALAN has already said goodbye to old recipes and formulas a long time ago, and also to old ways of thinking. Naturally, managing director Ivica Maurović (48), a native Croatian with a German passport, is aware of the GEALAN tradition, which delivered an extremely important piece of the puzzle: the experience, and the long-standing expertise of very good employees. Apart from this, the charismatic manager is not particularly interested in yesterday; instead, he focuses on developing solutions today that are so good that they will work tomorrow, and also thereafter. It is clear why GEALAN is starting to add innovations to the puzzle: 'If we fail to be innovative, one day we will have reached a point where we will no longer be around.' Innovation isn't an option; it's a must-have. And it's not the occasion to hold long speeches. GEALAN gets down to it and gets active. 'Over the next four years, we want to be ranked among the top 2 most innovative partners in every market we operate in.'

When talking about innovation, Maurović is not referring primarily to products. Of course, GEALAN has always set industry standards with ground-breaking innovations – with acrylcolor, STV, KUBUS. Developing improved products is part of innovation, yet it is only one part of the big puzzle. 'Innovations also include services, business models, digital technologies, and processes.' Not product management, and not tool making, not one department alone develops innovation, but GEALAN as a whole. 'Innovation mit System' (systemic innovation) is not only the company slogan that is printed on all business cards; it is also the raison d'être, our self-image, and our commitment. First and foremost, Maurović wants innovation as part of a corporate culture.

















'Innovation is a long-haul strategy.

We have chosen this path, and I cannot say that we have already achieved everything we set out to achieve. But I'm sure we are on the right track to be successful in the future.'

This culture begins in people's heads. It begins with every GEALAN employee knowing that he or she is important and part of something big. 'Nobody in the production department works solely on PVC profiles; nobody in management exclusively evaluates boring spreadsheets and variables. In reality, everyone contributes to beautiful buildings all over the world. That's the internal motivation we want to unleash!' The first puzzle piece of the company's innovation culture is the GEALAN improvement process, in which every employee can make suggestions, which are read and appreciated - more than 200 suggestions come

from the workforce in a single year. 'This is a huge step. Silo thinking, where everyone only sees his department, is a thing of the past. Why shouldn't someone from the accounting department have an intelligent

idea about products? Everyone's input is important.' The second piece of the puzzle also falls within the company's innovation culture: Agility. Among other things, GEALAN uses methods of design thinking that generate ideas, develop them into prototypes and test them very quickly. Instead of tedious and elaborate responses, practical solutions

'We've always done things this way', and 'We've never done things this way' –

Thinking like this is not the GEALAN way.'

are developed rapidly, which increase the pace of innovation. Instead of solo efforts, they are tested in exchange with pilot customers and improved according to their specific needs, thereby increasing their suitability. The times of simply developing innovations for the sake of innovating, are over. The good idea alone is not good enough. Ideation and invention are only starting points; 'implementation is even more important': An innovation must work and be successful on the market. The team represents the third piece of the puzzle: 'GEALAN has plenty of good ideas in the minds of its employees. The only question is: How do we set these ideas free? We want to move away from leadercentring, towards teams where everyone understands what it's all about and teams that achieve goals together.' However, GEALAN does not only work in teams for project-related matters, but also sees itself as a team: 'Sure, the sales force scores the goals, wins customers and generates sales, but no striker can win on his own. Each individual is

important in his or her respective position.' One person might put many pieces of the puzzle together, and one person might only contribute one piece, but this is possibly a decisive piece – it really doesn't matter, since the innovation puzzle always requires teamwork that involves all generations of employees to an equal extent. 'The young generation is better with technology. But the experienced employees have the knowledge. We want both sides to exchange their insights with one another. This way they can benefit from one another. It's about the willingness to be open for something different and about learning something new.'

GEALAN thinks along its entire value chain and considers which innovation is required at which place. All product variants manufactured by GEALAN must fit perfectly into the value chain consisting of system supplier, window manufacturer, reseller and end customer; it must be compatible – just as every solution in material development, service, logistics and communication must fit into many existing connection points. Every single piece of the innovation puzzle has complicated edges. Putting them together correctly requires focus; it is exhausting and costs money, and yet it is essential. Because puzzles are being worked on at other tables, too. Our rivals never rest, and they are no longer only similar companies. Even solutions from garage start-ups can lead to great upheavals for traditional industries. The days when

industrial solutions could rely on being leaders for decades are over. Therefore GEALAN is looking carefully in two directions: On the one hand, the company sees what new solutions are currently being generated by the industry; on the other, it sees what major developments will impact windows as a product in the future. 'We need to see the trends

that are changing our markets', says Maurović. And, ideally, we want to be the first ones doing it. There have always been changes in the industry, but in the past they were slower. The speed at which digitalisation is turning the construction industry upside down is enormous and increasing exponentially.

The innovation drivers are not the large construction companies, but architects who have long been working with CAD solutions and are increasingly working with Building Information Modelling (BIM), completely virtual building data modelling. For GEALAN, BIM is playing an increasingly important role, as is everything that can be achieved in the intersection between virtual and augmented reality, chip-based IPS (Intelligent Product Solutions), and smart home solutions. Digitalisation is here to stay and, at the same time, the construction industry is considered to be slow. As long as the order situation is good, some of

the stakeholders are very hesitant to change things. Thus most product innovations are gradual, i.e. progress in small steps; abrupt disruptive changes are the exception in this industry. 'People need time', says Maurović. 'An example: We have long seen that windows are getting bigger and bigger and we need additional statics; our system STV (static dry glazing) offers exactly this statics. Despite this, it still took two or three years for our customers to see the benefits. The same applies to the narrow LUMAXX frames. It takes time for such an innovation to establish itself on the market.' Yet one should not lose faith in the product in the meantime. Sometimes the smart thing to do is to bury ideas when they don't work. 'But sometimes you just have to hold on until the right time has come.' When to push something and when to kill it is not easy to

'Every change hurts.

You always have to stretch a little, remain disciplined, and deal with sore muscles.

But then the change

gets you ready!'

predict. To find this out, GEALAN relies not only on its own instinct, but also on continuous communication with its customers. 'We will never develop real innovation just within our four walls and without any external contact.'

Just because innovation is a puzzle, it doesn't mean that chaos can reign among the pieces. As an innovator, GEALAN acts deliberately in a structured manner, sets strategic goals, prioritises them, translates them into individual indicators – and above all, measures the fulfilment. In Maurović's opinion, there's no other way to do it. 'As a medium-sized company, we are responsible for 1400 employees.'

GEALAN has decided not only to be a very good and growing company, but it realises that it can only succeed if it is also an innovative company. Naturally, the task of developing innovation could also be outsourced completely or purchased from start-ups. However, reintegrating this new development into the company can then become a problem. Therefore, GEALAN prefers to rely on inhouse teams that are so competent in dealing with issues that, as Maurovićs is convinced, they can keep up with any start-up. As managing director, he believes in the concept of ambidexterity: GEALAN must be able to function as a company and, at the same time, have a hand free for developing new ideas alongside its day-to-day business. 'This is the major change issue. How do you get an organisation to do this? First, all employees need to understand why innovation is necessary. Then you need to create the capacity and the resources.'

For GEALAN, the decision for innovation represented the first step. The effects are far-reaching: GEALAN recruits the right people, 'To be innovative, we combine input from our own company with that from external experts, from scientific and consulting sectors. We don't need thousands of boring sessions and speeches; what we need is agility.'

hatches ideas in a team-oriented and agile way, takes its employees' ideas seriously and promotes them, creates an innovation-friendly climate, takes note of and follows trends, is faster than others in developing products, business models, and digital solutions – the transformation process is all-encompassing. Maurović is convinced: It will be worth it. 'The challenges for medium-sized businesses are considerable. Yet, so are the opportunities – for those who change! Big companies aren't able to change that well. We are smaller, and therefore more flexible. We are one the move, and we are moving fast.'

Innovation is only possible when it is present in people's minds as a possibility and a task, and everyone is in the right place to realise it. When all puzzle pieces are in place and they have found their perfect connections, only then does the whole picture become apparent. There is a key difference to puzzles made of cardboard: The innovation puzzle always emerges anew while making it; it has no fixed edges and, once started, it always presents new and unprecedented images. It's never done.



Innovative ideas are the basis for success. However, to be successful, innovations must be brought to market. GEALAN is able to do this quickly, because product development and testing are efficiently structured and closely networked. In what used to be an extrusion hall in Oberkotzau, toolmaking, running-in test facilities, application pilot plant (photo), environmental pilot plant, and testing centre all work together under one roof. In the summer of 2018, GEALAN opened the technology centre - investment volume: 4 million euros.

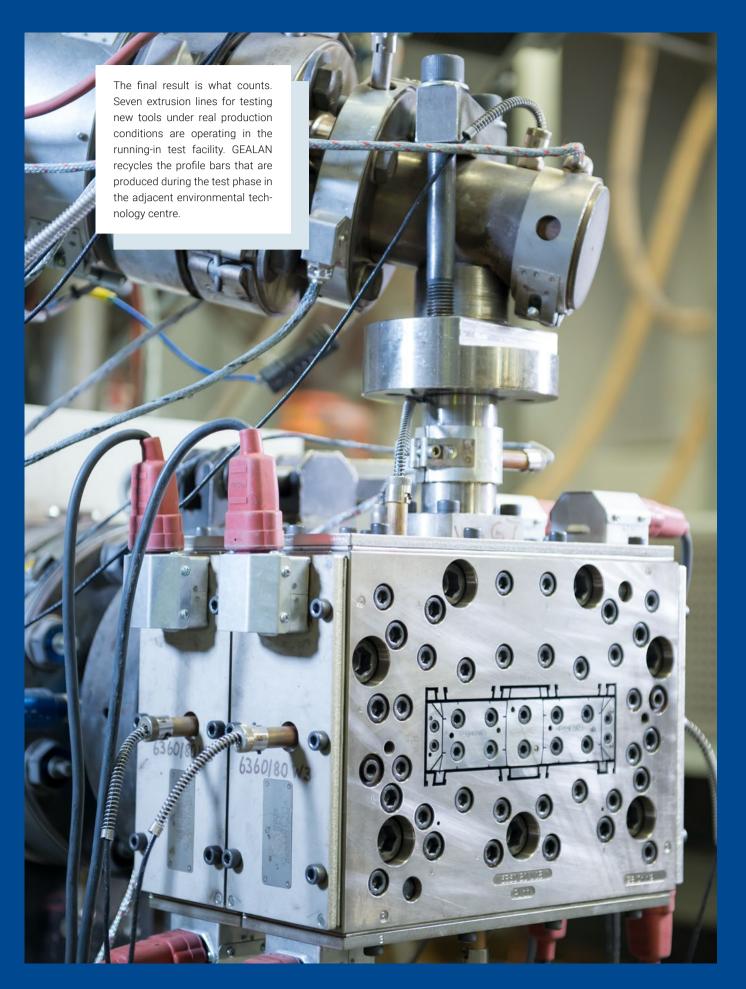








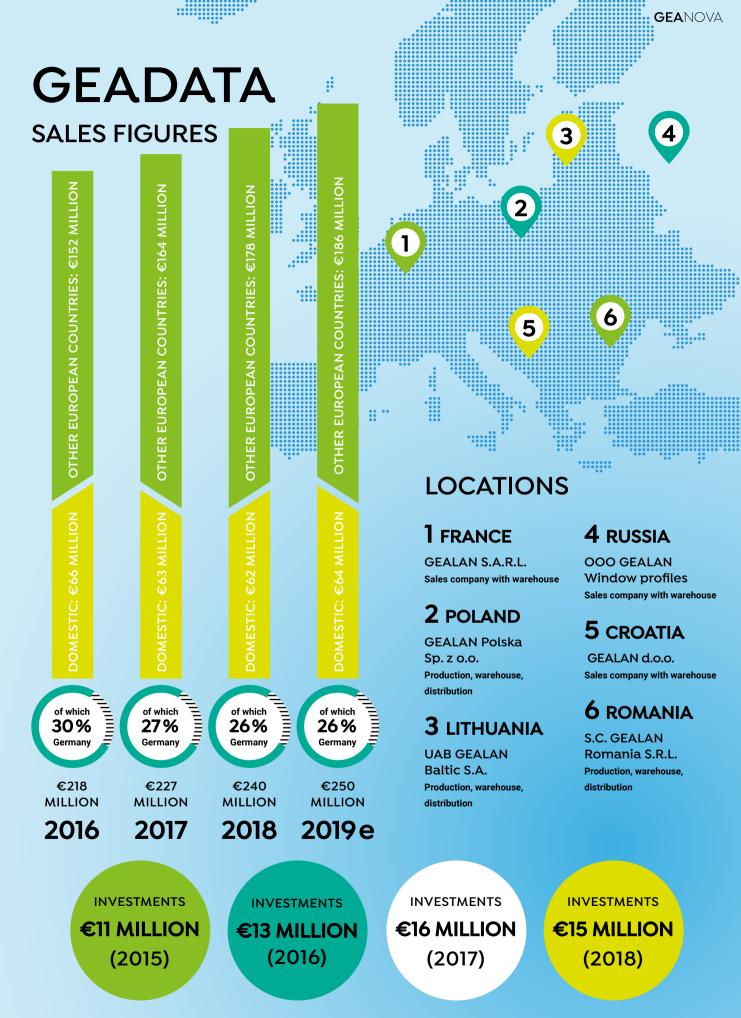












'SO FAR, NO



BODY HAS MISSED MUNICH.'



GEALAN AT THE HOFER VOLKSFEST

or many years, GEALAN Fenster-Systeme GmbH invited customers to the Oktoberfest in Munich. GEALAN has instead been celebrating at the Hofer Volksfest, which is the local equivalent to the Oktoberfest in Munich; for two years now. This has several advantages: 'We combine business with pleasure', explains Christiane Junghans from GEALAN Dienstleistung GmbH. 'The Hof Volksfest is close to our headquarters in Oberkotzau and our production facilities in Tanna. Guests can make appointments at both locations during the day and then enjoy a relaxing evening at the fair. It requires less organisational effort, the distance is shorter and, quite simply, it is beautiful here.'

GEALAN invites about 150 customers from all over Europe to Hof. The idea came from sales staff who met privately at the Volksfest with colleagues from other departments and then realised that this could also be set up at home. In 2017, they combined the High Franconian festival culture with the 1st International GEALAN Future Forum. 'Seminars and workshops deal with new GEALAN products, ventilation, surfaces, new technologies or current industry topics.' Information and training as added value for customers – that's the idea behind the Future Forum.

GEALAN has been presenting the traditional 'Companies Day' on the Thursday of the Volksfest since 2018, encouraging industry and craftsmen from the region to dance on the tables in the sizzling Hall'n, as the marquee in Hof is referred to. 'As a sponsor of the Hof Volksfest, GEALAN makes an important contribution to the Volksfest's quality and unique atmosphere', says Björn Pausch, one of the Hof Volkfest's hosts. 'We are delighted by the commitment to this location and by GEALAN's dedication. With the support of the businesses from Hof and Hofer Land we are able to organise one of the most beautiful Volksfeste in the region.'

Hof Volksfest instead of Munich Oktoberfest – 'so far, nobody has missed Munich', says Christiane Junghans, one of the organisers. 'The customers are all happy at the Hof Volksfest, regardless of whether they are Russians, Lithuanians, Dutch, or Portuguese. I think the spirit is great, and I think it's a good thing that we are here to stay.'





FACES OF DIGITALISATION

S

eeing things digitally, thinking digitally, feeling digitally, speaking digitally: GEALAN can do this. GEALAN's digital face is increasingly taking shape – also thanks to four digital pro-

fessionals who are shaping it and giving it character. Aust, Arslan, lovanut and Schröder are the digitalists.

You come home, walk into the living room, open the window. You hear birds chirping outside. You turn around; the table is set for dinner with a bottle of wine on it. You pick up the bottle to pour some wine, but it slips out of your hands and falls to the ground. No shards, no stains, no problem. Because the wine, the bottle, the room – non of it is real –only a bunch of ones and zeros: Welcome to GEALAN's Virtual Reality (VR).

If you want to experience the Virtual Showroom, you need VR glasses. 'Everything looks very realistic', says Alexander Aust (50), GEALAN expert on VR. 'You can try out windows and doors in the rooms you enter: How does the lift-slide door work? What difference does the sound insulation of the window make? You hear birds chirping or a thunderstorm, and when you close the window, you hear the sounds fade. When the sun shines, more light enters the room than when the weather is bad. If you choose narrower profiles, it goes without saying that you will have more light.' The landscape outside can be changed from mountains and meadows to a beach and ocean. Via the menu navigation you can select window profiles, décor and colour. 'Many people are sceptical at first', Aust says, 'but so far everyone who has tried the showroom has been absolutely wowed by the experience.' Customers see and immediately feel what a GEALAN product can do, and how it works. 'We create ambience — a journey of experience.'

Of course, a virtual showroom also appeals to people's discovery and game-playing instinct. 'For the young generation, which is experienced in the gaming sector, it's perfectly normal to move around in virtual worlds', says Aust. And yet VR is much more than a gimmick for GEALAN: 'With it, we give our customers a sense of security.



'I was excited to build something new at
GEALAN. When I arrived, I eagerly knocked
on every door. I have a lot of contact
with product management and sales –
everyone was very open to the online topic.'

Eva-Maria Schröder, Online Marketing Manager



'Digitalisation is a huge opportunity.

Of course we are relatively far and relatively early, but we have to connect and roll out our solutions.

We are never done!

Alexander Aust, VR Expert

Windows are long-lasting and cost money – VR means that customers can try them out before buying. Technology creates trust, and we position ourselves as a reliable partner.'

With GEALAN, digitalisation is never just a technical process and never an end in itself. It is not about pursuing digital solutions because they are technically possible or hip, but because they make sense. GEALAN wants digital transformation that also includes all processes within the company beyond production.

Windows cannot be digitalised, but how they are presented to the customers can. Augmented Reality (AR) is one of these ways. The times in which window profiles could only be visualised in the form of actual samples are a thing of the past. Today, the tablet recognises a marker printed on paper with its camera and starts the GEALAN AR app: Profiles appear on the display as completely realistic 3D models, which can be changed in all their properties and rotated 360° by swiping. 'You choose: this is the frame profile, this wing, this colour – the app automatically only couples features that work together in reality.' The effect for anyone who has never had anything to do with augmented reality is enormous: Everything seems so real! VR and AR mean: GEALAN can be seen digitally, felt digitally.

GEALAN got involved in both technologies early on. 'We haven't seen anything comparable in the industry', says Aust, 'and this is our experience advantage.' The applications open up numerous possibilities: A couple disagrees about the colour of their new window profiles? They take a smartphone, hold it in front of the windows, and different colour variations can be displayed. How much shading would an awning generate? How large should the window elements in the new house be? A meeting between your avatar and the architect can help. 'While your architect is in Berlin and you are in Munich, you meet virtually in your new house, look at the window volumes, and contemplate together about what everything should look like.'

GEALAN also feeds BIM from the same database as VR and AR. The abbreviation refers to Building Information Modelling – a new method of completely virtual building data modelling. Özkan Arslan (41) got involved with the topic of BIM a good two years ago and familiarised himself with it in record time. As an engineering draughtsman, Arslan is someone who, alongside his day job, went on to qualify as a technician, later on became a mechanical engineer with a master's degree, and then the Head of BIM. He is enthusiastic about new things. 'In the past, architects used to plan on the drawing board before CAD programmes entered the market, and now BIM connects CAD with the data from building products and 3D models. Not only geometric but also alphanumeric data is used for BIM. For windows: Burglar resistance, sound insulation, manufacturer, $\mathbf{U}_{\mathbf{w}}$ value, profile material, etc.' BIM combines all data in one building model, and this offers two major benefits: 3D visualisation of all building elements and full data depth, both centrally at one location. With BIM, architects can also see what a

product costs and when it can be delivered. Will BIM help to avoid planning errors and cost explosions such as BER, Stuttgart 21 or Elbe Philharmonic Hall? Arslan thinks it's possible. 'It's about erecting buildings on schedule and at a calculated price. It's also about the subsequent facility management, which can see at a glance who manufactured the defective window at position 4 on the ground floor, and what the specifications for the replacement window are. This is what GEALAN is preparing for.'

Preparing is a little understated. GEALAN recognised BIM's potential earlier than others and invested in inhouse planning software - the solution is now a leader, not only in window construction, but in the entire construction industry. 'The topic is developing rapidly, and we've already gathered know-how.' Arslan cooperates closely with Thomas Junghans, who has extensive experience in CAD and software development and has been involved in developing GEALAN planner software for 22 years. With this software, architects can generate a window model in the Revit CAD programme – for example, three metres wide, one metre high – without having to choose from a range of predefined options, but completely freely. The software tells the planner which GEALAN products he can use to implement this element. To do this, it accesses a database in which all GEALAN profiles and accessory variants are stored - there are billions of possible combinations. 'I can also switch between profile systems. Using a postal code query, only elements suitable for the planning region are inserted; statics, fall protection, etc. are also taken into account: The software then says: Please use a larger steel stiffener.' If the model is changed, the matching profiles are pulled live from the database without the planner having to do anything. 'At the same time, the architect can generate a 3D model and see what his element looks like, rotate it, swivel it, see drainage caps, mullion connectors, everything. The element is then inserted into the BIM building model used for the requirement specification. Window elements planned in this way are guaranteed to be available for order: a great practical advantage. GEALAN thinks and plans digitally with BIM.

Parallel to planner software 2.0, GEALAN is also represented on BIM platforms like BIMobject, on which manufacturers store a selection of their product data for planners. In just one year, GEALAN products have been downloaded 10,000 times worldwide and GEALAN has been nominated for the BIMobject Developers' Choice Award.

BIM is a basis for solutions that are not only much more efficient than today's solutions, but actually align with the much-discussed 4.0 industry: Architects could use planner software 2.0 to plan and approve the data for a window manufacturer, to prepare an offer and, once the order is received, use the data in the software to execute the order right away. This final BIM expansion stage is still a pipeline dream, but GEALAN can already visualise it.

Today's digital solutions must be constantly improved to remain relevant tomorrow. Raoul lovanut (39), Head of Digitial Taskforce, takes care

of that at GEALAN: 'Artificial intelligence, BIM, Internet of Things, AR, VR - these are not isolated solutions; they have to be linked and networked and be attractive for the industry', says Iovanut. The Romanian-German is a studied mechatronics engineer, has been active in the window industry for 14 years, has occupied himself with software solutions for 13 years, and is hardly every present in the corporate headquarters. lovanut travels to trade shows and partners across Europe, where he communicates the benefits of GEALAN digital solutions to the outside world and gathers suggestions for improvement. 'We look at what solutions are on the market, both software and hardware, then we discuss in our innovation circle what makes sense for us and our customers.' With pilot customers, GEALAN tests new applications and improves them, so that they satisfy customer needs even better. 'Our target groups are end customers, window manufacturers, resellers, architects, and property developers. Everyone is looking for something different in AR and VR applications.' For architects it's about planning tools; for retailers it is perhaps about which window system can be installed on the tenth floor; for end customers it is about which colour profile looks best in their house. 'Our AR app visualises all this very well and is constantly being expanded.' Next, it will show how sliding windows move, how rainwater runs off, what the impact of wind is. Tweaking and optimisation continuously enhance the app. Needless to say, lovanut is also working on major new solutions, but they are still top secret.

Parallel to VR and AR, GEALAN is also working with IPS (Intelligent Product Systems): Chips on the window profile that can be read by mobile devices. In the event of a complaint, professionals and end customers send the chip data to the manufacturer via app. Now, nobody has to come to look at the window and measure it.

'Some competitors concentrate on just one base – only AR, only VR or only BIM – we find it important to be able to offer tools in all directions', says lovanut. 'I'm always looking for new solutions, looking at what startups are developing. The cycles are short, and we can gain an advantage of half a year, at most a full year, but we have to stick to it, develop something new ourselves or buy it, and then deliver.' **Digital optimisation means: GEALAN's digitalisation is constantly growing.**

The one thing all digitalists have in common is communication. Digitising it is Eva-Maria Schröder's mission (36). The media economics graduate studied in Ilmenau and the Philippines, where she worked for football projects in Sri Lanka and Indonesia, career fairs for a major German corporation, the Stuttgart Media University and a major sporting goods retailer. Schröder also takes a sporty approach to online communication at GEALAN and quickly puts together a comprehensive concept: 'This way, we cover all channels that are important for us: From search engine marketing, i.e. SEO and SEA, to ensure high ranking to social media to push GEALAN as an employer brand – image is incredibly important for securing skilled workers. We cooperate with specialist websites, and email marketing is also a big deal.' In Germany,



GEALAN uses Facebook, LinkedIn, YouTube, and Xing. There is a clear strategy for every channel: 'Who is our target group? What are the topics? What is the marketing function? We are not an online shop – we are direct sales-driven; and social media channels play a major role with awareness and image' – Xing for career themes, the GEALAN YouTube channel for product videos and webinars and Facebook to show who we are: 'In the #GEALANExotic series, we show what GEALAN is doing in Japan, New Zealand and South America; we communicate on Facebook, but also talk about the regional company run in summer; we present GEALAN employees and their most beautiful GEALAN moments every month.'

Being a part of this is important: Apart from Google, YouTube is the mostused search engine; today Facebook is often used by end customers as a contact medium that has to function faster than traditional email. Schröder enjoys being fast; not only does she talk fast and think even faster, she also does her job in a very well-structured way. Because being part of this is one thing; content is another: 'GEALAN never acts thoughtlessly on the internet. We carefully analyse which pages make sense for us, since every channel must 'live' and be well maintained.'

The customer journey is key: 'To start with, we must be publicly known and have an image. This results in the need for the product and the interest in GEALAN. In this regard, search engine marketing is very effective, to ensure we reach exactly the people who are interested in new windows, attract them to our website, persuade them, and get them into contact with GEALAN. Then, ideally, the purchase follows, after which customer retention and loyalty become important. In every step, we address our customers in a targeted manner.' Keyword analyses and other SEO tools are Schröder's daily instruments: What search terms does a customer use to look for sound insulation? For Schröder 'Content is King' is not truism but the daily task to deliver very good content on all channels. Thus, traditional platforms like industry trade fairs still serve a purpose. 'Today, however, we support them very strongly online with daily reporting in social media, pictures and videos, and we network them with our Virtual Showroom and AR - plenty of things are digital.' Of course this also applies to data evaluation: In online marketing, GEALAN uses all tracking options - to monitor success and to be able to respond better to customer wishes. In a nutshell: Eva-Maria Schröder gets GEALAN to talk to its customers digitally.

GEALAN has invested money in its digital transformation, and it has created internal and external competencies and transferred great responsibility to its digitalists. Together, they not only introduce digital solutions to the company and the customers, but they also set GEALAN in motion. The digital face of GEALAN is clearly facing towards the future.



deal with software, walk to architects

and IT people, attend trade fairs

and associations. Every day is different

and brings with it something new.'

Özkan Arslan, Head of BIM



but we can move it in a slightly different
direction: Connectivity, modern work
environment, improved processes,
and interfaces – ultimately, it is all about
making things easier: deciding, ordering,
delivering, and installing.'

Raoul lovanut, Head of Digital Taskforce



he Institute for Information Systems (iisys) is the central computer science research institution of the Hof University of Applied Sciences. It sees itself as a bridge between research

and development and the actual application. Its research work is incorporated into companies including Industry 4.0, health, care and civil security. Dr René Peinl, Professor for commercial computer science at the University of Applied Sciences Hof, works at itsys as research group leader and is responsible for the institute's cooperation with GEALAN Fenster-Systeme gmbh.

Digitalisation may not be on everyone's minds yet, but everyone's talking about it. How do you define digitalisation?

It is important to me that it is not primarily a matter of converting analogue to digital. Scanning a sheet of paper and saving it as a PDF may be digital, but this is not digitalisation. Digitalisation means making the most of the opportunities offered by digital technologies in the widest possible range. I like to illustrate this using the e-book as an example: The e-book is the PDF from which a book can be printed, i.e. the basis for digital transformation. You can use it to analyse reading behaviour, you can create a platform where readers can exchange information or get in touch with the author. In this case, the e-book becomes a true product of digitalisation. Digital technologies are not only used to fulfil functions; they also provide data that can be evaluated in terms of improving a product and increasing customer benefit.

How has iisys positioned itself?

Traditionally, the University of Applied Sciences - in contrast to the university - had more of a teaching function. For some years now, research has also been regarded as an important pillar at universities of applied sciences. At iisys, we are proud to be one of the first institutes at Bavarian universities of applied sciences to have done research in computer science. Our research is very applicationoriented. The objective is to recognise the results of basic research as applicable at an early stage and to take the final step towards application. An important task of iisys is to help regional companies participate in the digital transformation, initiate first steps, and maintain or strengthen competitiveness instead of becoming victims of slow developments at some point. Information technology has become an innovation driver in many industries. Often, however, computer scientists lack knowledge about actual problems, while practical people do not suspect that science has long since developed solutions for its problems that are waiting to be applied. That is why cooperation with the industry is very important to us. Companies need universities and universities need companies.

How did the cooperation with GEALAN Fenster-Systeme GmbH come about?

We regularly organise workshops to which we invite companies from the region. We present our ideas and offer participants the opportunity to introduce their own applications and problems. The representatives of GEALAN were industriously discussing in itsys, which is how we got together.

Which projects did iisys and GEALAN get off the ground?

In its window profile production in Tanna, GEALAN uses a software solution developed by us to digitally map manufacturing processes. The employees receive a digital production order via tablet with information on the product as well as the required tools and tool parameters. Quality indicators and produced quantities are reported directly to the control centre. In the past, these steps were paper-based and took a long time to complete. The cooperation for this project took about a year. More approaches have emerged in toolmaking and in product management, where GEALAN deals with smart products that can be integrated into computer technology. I impart my knowledge with regard to the question of how to integrate windows with sensors into smart home scenarios.

How quickly are GEALAN's digitalisation efforts developing?

Generally speaking, I see GEALAN on the right track. Companies that have started to move and see how the measures help them sharpen their senses for any remaining deficits and usually take further steps. Word has got around in Germany that the topic of digitalisation has to be tackled and should not be missed. Nevertheless, many companies are still hesitant, either because they are preoccupied with day-to-day business or use the good order situations as an excuse to not have to deal with improvement processes. GEALAN has passed the phase of waiting and thinking and is now doing something. Our workshops have given us a lot of euphoric feedback, but GEALAN was actually one of the few companies that did something concrete with us.

They cooperated on a book that asks the question as to whether digitalisation is a blessing or a curse. What is your answer?

It is a major social challenge to guide digitalisation in a positive direction. It is not automatically a blessing. Like almost all new technologies, it holds great potential for abuse. Each individual decides how to deal with social media, how important data privacy is to him or her and how to act during online shopping. We have to be aware of the risks and should sometimes decide against the global trend. Of course, I am a technology advocate, but I am critical of digitalisation. My advice is not to rely on politics. It is the civil duty of every individual to decide what is desirable and make informed choices.



THURSDAYS FOR FUTURE:

DIGITAL OF COURSE!



Melissa Moreth, GEALAN Customer Service Centre, and Daniel Eiswert, Assistant Head of Sales

'Every Thursday, we meet to collaborate in a concentrated manner', says Daniel Eiswert. 'It's over after one hour, but we're allowed to work up to four hours a week on digital natives projects at our workstations.' They develop ideas, provide impulses, write concepts that they present to the management. They are directly involved in the implementation, or they hand over the current status to specialist departments. 'We noticed that a lot of paper was used and we wondered why all the documents were printed', says Melissa Moreth. 'We had ideas for paperless order processing. While we were creating a digital seating plan, we discovered a 360-degree visualisation tool that marketing is now using. We modernised the training stand, developed a welcome box for new employees, initiated an intranet project and helped build GEALAN's Facebook presence.'

Facebook, WhatsApp, YouTube - channels from which some digital natives keep their distance. 'Many know their way around these channels really well and are represented on all platforms themselves. Others are very reluctant, mostly for fear of unintentionally disclosing personal data publicly on the internet.' Melissa, Daniel and their group explain privacy settings and privacy features - simple things for them, new territory for others. 'We would like to show how things can be greatly simplified in everyday professional life. In 2018, GEALAN's Digital Natives launched a series of training sessions with monthly events between May and December, each with a maximum of ten participants. 'In addition to social media workshops, these were product training sessions for people who don't often deal with GEALAN products. All were well attended; we received positive feedback and suggestions as to what we shoulddonext. Some colleagues even created their own Facebook or Whats App profile at the seminar.' Next step: for flexible learning, the digital natives want to set up a digital GEALAN training centre, but this is still in the concept phase.

Melissa Moreth and Daniel Eiswert have learned a lot themselves, they say. For example, younger employees are more open to new ideas, while older employees often first have to overcome inhibitions. 'As digital natives we can inspire digital immigrants to try something that is still unfamiliar to them. We have the opportunity to make a difference in the company with our ideas.'

he cliché of the coffee making, file hauling trainee still exists. But not at GEALAN. Young colleagues contribute a breath of fresh air to the team and the whole company – if you let them. GEALAN does just this and relies on the knowledge that

the digital natives have automatically acquired because smartphones and computers have always been there for them and did not have to be invented first. Melissa Moreth (21, industrial clerk) and Daniel Eiswert (23, industrial clerk) joined GEALAN in the autumn of 2016 and completed their training in February 2019. They belong to GEALAN's digital natives, a group of about 15 people whose ideas are in demand when it comes to digital inspiration.

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