

imteam



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Editorial

Dear Readers

The hot summer days of the record June are once again demonstrating dramatically to us that things are not as they used to be. And we would not like to view this conclusion restricted to just the climate.

Political turbulence at many places in our world, trade disputes, migration, technological upheavals arising from the digitalisation and networking of our contemporaries, but also ecological challenges such as climate change and the polluting of the oceans with plastic, are just some of the key topics we read, see and hear about day in, day out in the media.

All of this will first affect us in a manner that will by and large be significant, as we are sensing in direct form with the weather. And to be able to overcome the pending problem, we will all be called upon to make our contribution.

As the GAW Group and family-run business with long-term outlooks, accepting the social and economic responsibility is a matter of course. We are convinced that sustainable economic success can only be achieved in stable social surroundings and a healthy environment. We are working towards this. And we also want to be an attractive and stable partner in the future personal planning of our 550 and more employees, as has been the case over the company's almost 70-year history.

To rise to this distinctly ambitious challenge, our shareholders and of course we have financial expectations. So continual growth of the businesses is one of our core strategic remits in the years ahead. Previously, social, ecological and economic change extended over several generations. Now we are experiencing over the lifetime of a person fundamental upheavals that are continually challenging our willingness to adapt.

But from the corporate standpoint, change also encompasses attractive opportunities for the future. In our companies and the technologies developed by them, we see ourselves as part of the solution to the key remits now and in the future.

Paper for which there have for decades been proven circulation concepts is developing more and more into an ecological alternative for plastic single-use packaging. Furthermore, energy efficiency and the responsible use of water as a resource are essential challenges for the paper industry. The technologies available from GAW technologies and OSMO mean we are in tune with the times.



Banishing plastics from our lives however would not only be utopian but also ecologically fatal. They are too valuable to be thrown away after a single use. For many applications in our daily lives, plastics are even the more sustainable solution. For this, durable high-tech plastics are being made with ECON machines. On UNICOR production lines, plastic profiles are being manufactured that are making a significant contribution towards resolution of our future challenges as water pipes, tubes in medical applications and protective conduits for fibre glass cables. We close the cycle of recyclable plastic by using the innovative systems engineering from LÖMI to transform plastic packaging waste into plastic that is as good as new.

Autonomous driving, electromobility, traffic monitoring and control, digital networking and automation of complex production processes and self-optimising processes – these are the fields of expertise we are developing with AutomationX and M-TECH now and in the future, and so are fully up with the trend.

Our market is the world. And for our technologies to also arrive at customers speedily and reliably, the THOMAS and FERSTL freight forwarders are developing tailored logistics solutions.

This edition of our imteam magazine provides an insight into the company's track record of success. We trust you enjoy your summer reading and wish you and your families a relaxing summer.

Robert Assl-Pildner-Steinburg

Alexander Rinderhofer



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For improved legibility, there is no simultaneous use of male and female language forms. All personal designations, unless assigned to a specific person, apply to both sexes.

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Dissolving for the future.

Text: Ralf Wegemann, Marc Pildner-Steinburg

Photo: LÖMI, Unilever, private

In collaboration with the Fraunhofer Institute IVV, LÖMI has developed a technology for plastic recycling management systems that is new across the globe. The first ever cooperation between group companies LÖMI and GAW technologies is taking place on site at customer Unilever.





Unilever

Solv[®] Pilot Plant INDONESIA

Making
Sustainable Living
Commonplace





LÖMI systems for working with solvents and other complex media are being deployed worldwide.

LÖMI is a manufacturer of process installations for working with solvents and other complex media. Systems for solvent recovery and systems for debinding parts made using metal/ceramic injection moulding and additive manufacturing (industrial 3D print) represent the core business.

LÖMI systems are deployed worldwide in the automotive industry, aerospace, chemicals industry, plastics processing, optical industry, surface engineering, electronics industry, print industry, pharmaceuticals and medicine. Companies such as Siemens, Continental, Osram, Philips, Leica, Swatch Group, Swarovski and Unilever are amongst their customers.

Over recent years, LÖMI, as part of a large-scale project in collaboration with the Fraunhofer Institute IVV and worldwide concern Unilever, has developed a new technology for plastic recycling management systems with which multi-layer plastic film waste (from food packaging for example) can be separated into the different constituent parts, cleaned and prepared for continued processing - in a way that is extremely gentle on the material. Raw materials recovered this way correspond to new products in terms of quality, and so are excellently suited to use in high-grade applications.

To leverage this technology across the globe, LÖMI and the GAW Group have entered into a strategic partnership, in which GAW Industrieholding assumed a majority shareholding in LÖMI GmbH. The company founded in 1991 continues to be run by founding partners José Manuel Dias Fonseca and Christian Ferreira Marques, who both continue to have a significant shareholding in the business.

[An interview with the management team is below on Page 10.](#)

1991
Founded

€4m
Turnover

Head office
Groß-Ostheim
(Bavaria)



From the left: "Honggo" (Unilever, Head of Mechanics, Operations), Nenad Vidanović (LÖMI Programmer), Simon Bergmann (LÖMI Project Manager) with infeed material and granulate, Tri Sabron (Unilever, Overall Project Manager, Operations), Fauzan Naufal (Unilever, System Manager, Operations).

About solvent debinders.

Challenging and complex parts are being made of metal and ceramics using modern-day production methods such as Powder Injection Moulding (PIM) and Additive Manufacturing (AM). For this, metal/ceramic powder is mixed with binder components to render possible shape forming on injection moulding machines (PIM) and in industrial 3D print (AM). After the parts are generated, they are debound, i.e. the binder components are removed by means of extraction using an organic solvent or water. The last process step is sintering of the parts under high temperatures.

Major benefits of the modern PIM and AM production methods are that ready-to-use metal or ceramic parts can be made in very few production steps, and that other cutting production steps (such as drilling, milling and grinding) are redundant. LÖMI makes debinding systems with solvent and water debinding. They are very environmentally-friendly due to the self-contained system, have compact dimensions and are subjected to very low levels of wear.

About solvent recovery.

Solvents are commonly used as industrial cleaning agents, for metal degreasing for example. An on-site solvent recovery system saves on the appreciable costs for disposing of dirtied cleaning agents, and the continual purchase of new agents, and also of their transportation, storage and handling.

Solvent recovery with LÖMI systems using vacuum distillation guarantees a high recovery rate (up to 99 %) and unchanging quality of the cleaning medium. This can be fed back continually into the process. The self-contained system makes the process clean and environmentally-friendly.

Innovative process for plastics recycling management.

LÖMI is committed to progress and is continually developing its systems. LÖMI technology is state-of-the-art in many fields. The company is extending its competitive edge with numerous research projects with high-profile project partners.

As part of the industrial realisation of one of these large-scale projects, there is cooperation for the first time between the LÖMI and GAW technologies companies in the group. We of course want to know more about this and have requested Mr Simon Bergmann from LÖMI and Mr Stefan Divjak from GAW technologies for an interview.



Simon Bergmann –
Project Manager
Engineering, LÖMI

Interviewer: Mr Bergmann, it is great to meet with you for a short time in Germany. For over 16 months now, you have been spending half of your time in Indonesia. Does it do you good to be back here?

Most certainly, especially when you are away for several weeks in one stint you look forward to family, friends and home. But it is a readjustment every time. Over there, I only know long workdays and the hotel. Everyday life at home and in the office is then somewhat different.

What is the status of this project? How far has start of operations progressed? Is there already tidy separating, cleaning and assembling? With which capacity?

It is a pilot system on which many things are tested to arrive at findings for large-scale industry. We were not able to plan some things upfront, so start-up required its time and we have made many adjustments.

We intentionally started off with a lower capacity and have since performed the Site Acceptance Test with part of the design capacity. Reaching steady-state operations, on the basis of which we are able now to increase capacity further, was a huge progress. The customer on site was extremely satisfied and also communicated this internally, something that is very good for the pilot system and subsequent follow-on projects. The PE material produced also proved itself in tests at a plastic film producer. This company therefore

wants this year to launch onto the market its plastic film with a percentage of our granulate.

You have spent the majority of time on-site in Indonesia. Paint a picture of the conditions for working on the system? How do you experience Indonesian employees? What sort of mentality are we talking about?

It is certainly very strenuous - the tropical climate together with a system heated with thermal oil and long workdays. We are happy about always being booked into good hotels and being able to cool down in the pool on Sundays at least.

Indonesian workers always make an effort, are friendly and treat us with respect. But the way they work is very exciting, for mechanical work in particular - sometimes it amazes me how they make up for a lack of tools with creativity. Many things are simply different to here. For example, there is at times nobody at the system, especially on Fridays, when the muezzin calls - everything is left lying around.

System operation means workers are faced with a few challenges. Even if the level of system automation is 90 %, irregularities sometimes do occur. We are dealing with a prototype here after all. So a long training phase is scheduled from the end of June, after which the Unilever employees should be able to operate the system themselves for a few months.

In regard to teamwork. This project saw the first collaboration between LÖMI and GAW technologies. Mr Divjak, could you please detail the cooperation process? What was the role of GAW technologies? How were the synergies used?

Of course. I would like to mention at the start that LÖMI has been working on this technology for some time, and as a system manufacturer has been operating successfully in the field of solvent-based processes for almost 30 years. LÖMI also set up the pilot system by itself. This worked very well, although LÖMI recognised that the high percentage of purchased parts and the partially outsourced engineering work were a real test for the internal resources. This is where GAW technologies can now show its strengths, namely pipe-work extending over kilometres, many individual parts, complex controllers - in short large-scale industrial plant construction. For the pilot system, GAW has already been able to provide automation technicians and filtration solutions. There are of course many more opportunities for the following, and presumably far bigger, installation.

So it is better in the team?

Certainly. With many years' expertise in the field of plastic recovery and the know-how on solvents from LÖMI on the one hand, and the focus on large-scale industrial plant construction and automation from GAW technologies on the other, we really are a strong team.

What was your impression on site?

So thanks first to you Simon for the friendly reception. You have been on site so long that you have managed to get yourself a Titan membership for the hotel as well as expertise on the local cuisine and every bolt in the system.

You can see quickly on entering the system how much process engineering and detailed knowledge has been channelled in. The term "pilot system" is perhaps associated by many with a countless number of tubes and makeshift arrangements, but this is actually a sturdy industrial system with a capacity of several tons per day. And "work site" does not really do justice to the system as everything here is clean, neat and tidy, and functional.

Mr Bergmann, when somebody such as yourself spends the majority of his time in Indonesia, you presumably view the world a little differently, perhaps with a broader perspective. When you view Europe from afar: What can we as Central Europeans learn from the Indonesians and vice versa?

That is difficult to answer. I certainly keep being surprised by the fact that none of the workers on site complain, no matter how long their working hours are or the conditions in which they work. The people are simply just thankful about having a job and being able to feed their families. They do not need much to be happy.

This is rarely the case for challenging work such as system start-ups, but now and again there is time for the pleasant things in life. How have you come to appreciate Indonesian cuisine in its diversity? Perhaps there is even a favourite dish?

The customer has often encouraged us to eat Indonesian cuisine. So my ability to eat hot, spicy food has increased considerably. I can really say that on the whole I like the food. I particularly like "Sop buntut", an oxtail soup.

And finally. How is the project going to proceed?

As already mentioned, we will soon be conducting an intensive and long training phase. Afterwards, Unilever is to then produce a few tons of granulate



Stefan Divjak –
Head of Sales,
GAW technologies

so that the plastic film producer can mix its film with the recycled granulate, creating a lot of publicity for the project on the open market. The next step would then be upscaling of the technology to a far bigger system. The pilot system will still be rendering valuable services here too in that the next improvement steps can be tested upfront.

Leverage for the much-promising.

LÖMI has been part of the GAW Group since July 2018. What were the key steps in this first year? How has the company grown in the first group year? Are there already initial cooperations in place with other companies in the group? Reason enough to ask managing partners José M. Dias Fonseca and Christian Ferreira Marques.

Text: Ralf Wegemann, Marc Pildner-Steinburg

Photo: LÖMI



Managing partners Christian Ferreira Marques (left) and José M. Dias Fonseca (right).

Interviewer: Dear management team at LÖMI. Before we get to the issues of the day, we have a request. Can you tell our readers how the partnership with the GAW Group came about?

Of course. Continually increasing demand from customers has meant turnover has been rising continuously - by 46 % and 65 % respectively over the last two years compared to the previous year. The next logical step for us was therefore to find a strategic partner for broadening our business segments and continued internationalisation. It was important that this partner is able to assist us in our long-term objectives and shares our values, such as reliability, innovativeness and partner-like relationships with customers, employees and suppliers. We are glad to have found in the family-run GAW Group the perfect company to partner us.

Mr Fonseca, what was going through your mind when you founded the company in 1991? What was your driving force? What was your vision for the company?

From the very outset, we at LÖMI have been developing new methods and system technologies in close cooperation with universities and research institutes with the aim of leveraging promising technologies in line with our vision.

And so in 2001, you succeeded in launching onto the market the first systems for solvent debinding?

A feedstock manufacturer with solvent-soluble binder in its metal power granulate, who was aware of our many years' experience in solvent process engineering, approached us. And so we developed our first solvent debinding systems. Because we are continually enhancing them in collaboration with feedstock manufacturers and PIM part producers, we grew to the global market leader within just a few years.

14 years ago, Christian Ferreira Marques arrived from a large German company as a company partner and second managing director. How has your company developed since then?

In the area of debinding, we have developed new markets by for example offering for manufacturers of ceramic parts in medical applications and the watch industry special systems that prevent the depositing of ultra-fine particles on the surface of the debound parts.

For some time now, increasing numbers of part manufacturers in the PIM sector have been recognising the benefits of solvent debinding and are switching completely to this method. At a single customer working in the watch industry for example, 15 of our systems are in operation. At the world's biggest manufacturer of PIM parts, there about 30 large-scale LÖMI systems. So five years ago, we invested €2.5m in new, separate industrial installations, more than doubling the areas available for R&D and production. Shortly after the move we constructed a second building – also to be able to realise the pilot system for Unilever.

What can you report to our readers about the new system technology for plastic recycling management? What is so novel about the process?

For seven years now we have been developing new system technologies for plastics recovery using solvent extraction. Our almost 30 years of expertise in the field of solvents means we are a sought-after industrial partner for universities and research institutions. Together with our long-standing research partner IVV (Fraunhofer Institute for Process Engineering and Packaging), we have already realised several projects, such as for the recycling of composites from metal and plastics, and for the processing of old contaminated plastics in the reconditioning of electrical devices and cars.

In the new system technology, that we again have developed in cooperation with the IVV, it is about recovering multi-layer plastic film waste such as is used in food packaging. In previous recycling methods, it has only been possible to recover a mixture of the plastics contained therein. The result was a low-grade synthetic material suitable only for manufacturing park benches for example. Our system technology, new across the globe, enables individual plastics such as PET, PP and PE to be separated into single components. So they can be recovered sorted according to individual waste stream. For the first time, the results are plastic granulates having the quality of new products, that are suitable for the production of high-quality products.

How do you assess the growth prospects in this sector and in your company as a whole for years to come?

Extremely positive. Several worldwide concerns have already expressed interest in the new system technology for plastics recycling management, and together with the GAW Group we are also able to offer systems on a large industrial scale. Furthermore, the social discussion about plastic waste in the world's oceans and stricter laws on environmental protection and occupational safety will mean the demand for clean recovery methods is set to increase further over coming years. In terms of debinding, we are currently developing the market for Additive Manufacturing and industrial 3D print, for which we have developed new systems specially.



From small to BIG.

From lab trials to successful start-up.

The exciting path from a 20 litre trial to a fully installed 5000 litre machine.

Text: Sigrid Tertinegg

Photo: GAW technologies

Autumn 2018 saw at OOO Mayak-Technocell in Penza/Russia the successful start-up of a new disperser system from GAW technologies for the manufacture of a coating dye for application on the paper machine. The journey towards this point began several years ago and started as dispersing lab trials.

OOO Mayak-Technocell Penza is a joint venture company comprising the Felix Schoeller Group and OAO Mayak. Today it produces decor paper and raw paper for fleece wallpaper at the Penza site, about 600 kilometres south of Moscow.

Initial contact about this project extends back to more than three years ago. After substantiation of the enquiry, dispersion lab trials were scheduled by Vice President Process Chemistry & Raw Materials Schoeller Technocell, Dr. Hartmut Schulz, and the research and development team at GAW technologies to test the specific requirements. A lab dispersion system enables out of the ordinary and particularly challenging formulation specifications to be tested under real-life conditions, and the clarification of parameters beforehand, to bring alive the required application.

The special formulation, that contained different pigments (including calcium carbonate and kaolin), requires a very high solid matter content in the pigment dispersion. This gave rise to the problem that the solid matter content stipulated by OOO Mayak-Technocell was not achievable for separate treatment and



The journey towards coating dye starts as dispersion lab trials ...



... where challenging formulation specifications are tested under real-life conditions.



later mixing of the pigments. The decision was made to conduct testing with Co-Slurry (a mixture of pigments) at the lab / technical centre at GAW technologies in Graz.

It could be seen as early as the first test that it can be critical when classic stirrers (dispersion disks or standard rotors/stators) are used because they are not suitable for the special application.

A total of three testing days were spent determining the successful combination - a CDS rotor and LR stator gave a coating dye with perfect rheological properties – high solid matter content and low viscosity.

Lower back-pressure in the pipes, and other factors, mean there are a whole array of benefits for the customer.

Christian Stine, R&D at GAW technologies, sums it up: “An understanding of the raw product, and chemical and physical processes, are essential in the production of coating dye. The formulation always comes from the customer - we serve only as a tool to be able to build the correct production system using the results from testing. We find out how the process can be designed and the way in

Volumes from
5 - 50 l

Motor power
**5.5 -
7.5kW**

Continuous speed
control from fre-
quency converter

Speeds
to
5000 rpm

Stirrers
that are simple
to replace

which the dye can be produced exactly as it is desired.”

The required results were attained on a small scale as well as months later when the actual system entered into service without problem. Worthy of particular note is the extraordinarily good support of the whole team at OOO Mayak-Technocell in Penza - which was an inspiration to, and will stay long in the memories of, GAW project management as well as the start-up specialists and fitters.

Interviewer:

Dr. Schulz, why did you elect GAW technologies as the partner for the experiments and what were the special requirements?

We are already familiar with GAW from the successful collaboration in the Felix Schoeller Group. Furthermore, we were able to very quickly ascertain that GAW has excellent experience through its activities on the international stage.

Was it actually possible to take the knowledge gained and the process of testing 1:1 for the large-scale production system?

The trials beforehand enabled us to mark out the process boundaries, and to enter the start-up phase with a finished formulation satisfying the technological requirements in the paper machine.

From a customer perspective, how did start-up of operations of the disperser system go on the paper machine?

The results of pre-testing in the lab formed the basis of the system layout. With the results of the tests under our belts, we could quickly specify the start-up program. On just the 2nd disperser preparation during start-up, the ambitious goals were reached. This meant the workers at OOO Mayak-Technocell were able to integrate the system into production without subsequent improvements.



Vice President Process
Chemistry & Raw Materials
Schoeller Technocell,
Dr. Hartmut Schulz



After just a few days of testing, a coating dye having the required rheological properties, high solid matter content and low viscosity, could be produced.



The dissolving system that solves problems.

Start-up of fully automatic hydrosulphide processing system at Khanna Paper Mills, Amritsar, Punjab, India.

Text: Sigrid Tertinegg

Photo: GAW technologies

In February 2019, GAW technologies GmbH successfully entered into operation a fully automatic sodium dithionite dissolving system and dosing unit at Khanna Paper Mills.

Khanna Paper is a major player in the paper industry and the largest paper factory of its type in India. It produces about 450,000 metric tons of newspaper and printing/writing paper and was the first factory in India to manufacture high-quality paper and cardboard made entirely of recycled de-inked, wood-free paper. The "GO GREEN" initiative of Khanna Paper Mills is a milestone in the Indian paper industry because recycled paper is used as a raw material.

So, the fully automatic hydrosulphide dissolving system (also called sodium dithionite dissolving system) from GAW technologies fits perfectly into the environmental mission of Khanna Paper. Sodium dithionite is a bleaching and reduction agent used mainly in the textile, paper and mineral compound industries. The GAW hydrosulphide system guarantees highest performances and a minimum of product losses, yet is reliable, efficient and compact at the same time.

The system is designed to European safety standards and has fire and alarm systems fitted. It is also a fully enclosed skid unit and so reduces emissions of hazardous sulphur dioxide gases into the environment. The ultra-modern system dissolves hydrosulphide in powder form down to the required concentration and supplies bleaching agent to two de-inking lines at Khanna Paper.

Mr. Rahul Khanna, Managing Director of Khanna Paper, puts it this way:

"As part of our goals as part of the GO GREEN initiative, we have invested in this system because by doing so we are modernising the production units and increasing the levels of occupational health and safety. Hydrosulphide gives rise to a number of challenges in regard to use and handling because it is easily flammable and can emit harmful gasses during use. We are glad about being able to successfully meet our environmental specifications with the fully automatic GAW hydrosulphide system. Also, it is very safe, reliable and user-friendly."

30 years of Auto- mationX.

Text: Marc Pildner Steinburg

Photo: AutomationX

A reason to celebrate. To celebrate the 30-year anniversary, AutomationX invited partners and friends to spend an entertaining evening together. Very many congratulations! Retrospectives of a wonderful evening ...

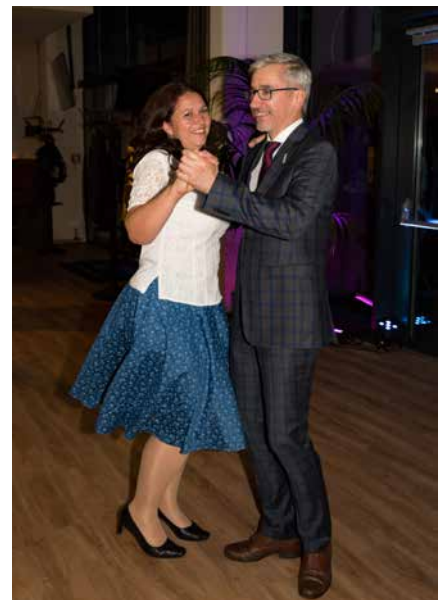




30 years of AutomationX...



... Pictures.



The company founded in 1989 is celebrating its 30-year anniversary this year. AutomationX has been an important part of the GAW Group since 2014. Connecting AutomationX and GAW most are many years of history as GAW technologies was a partner and customer at the very outset. An excellent reason to ask the managing director for an interview.

It was more than three years ago when you relocated from Grambach to Graz with the entire company. The office building constructed right next to the headquarters of the GAW Group in Graz has all the modern conveniences and offers employees floor space extended over 1,418 m². How long did it take for the workforce to acclimatise and for operations to be fully up and running again? The relocation went smoothly thanks to perfect preparation. Given the IT-based nature of our company, we of course had no large machines or mechanical production equipment to move. The challenge mainly was in the preparation of network and communication equipment, and here it was tremendously helpful that our AX team was involved in the design of the IT landscape. We then relocated on a Friday. On the following Monday, we connected up the laptops at the new workplaces and started work – plug and play. A relocation could not go any smoother. A big thank-you goes to the GAW computer centre and IT. We now have twice as much office space. A dream for every programmer - working with the latest infrastructure and office equipment. The increase in productivity and greater positive mood within the team were tangible shortly afterwards. So, acclimatisation in a positive sense!

The move to the direct vicinity of GAW Industrieholding is the result of the strategic deliberation to intensify further collaboration between AutomationX and the other companies in the group. To what extent has this succeeded? How far have you already come?

Mühlehner: The collaboration with GAW technologies has been excellent in the

Thomas Mühlehner

FAMILY
Married
2 children

HOBBIES
Running, music

AT AX FOR
13 years

30 years before. In coordination with the groups in the company, GAW Industrieholding has initiated actions to promote communication and cooperation. This has resulted in a “bunching together” of the companies in the subsidiary concern distributed around the world. We are right in the middle of completing the technological synergies between the group companies as well as on customer level.

Klug: Software to realise the production processes is playing a bigger and bigger role at customers of the plant construction and mechanical engineering companies in the group, such as LÖMI and UNICOR. We see here potential to use the GAW contact network and to establish our MES (Manufacturing Execution System) solutions in combination with the systems and machines. In addition to the increase in synergies, we are working on our own potential to render possible the growth planned. We will be more active in the food sector in particular.

In October 2017, you were both entrusted with managing the company. What were the first important decisions under your management? What do you find easy and were there perhaps also difficult decisions to make?

Klug: We started with three major issues - merging the business divisions, developing managers and market focus. The Construction materials, Food and Industry business segments were merged with



the Production management business division. Also, managers on the third level were strengthened and underwent targeted training in order to build up further the framework for our planned growth. Furthermore, we have placed the focus on our core industries.

Mühlehner: AutomationX is known on the market for implementing tailored solutions in the most diverse of sectors. This has meant the focus on our core sectors was sometimes lost. We have set ourselves the goal of growing in our core industries and of continuing development of the solutions in such a way that we inspire our customers, and of attaining high market penetration in a few sectors. This requires letting go and saying no to enquiries although our products and teams could master the technical requirements. This is sometimes difficult for us.



Roman Klug

FAMILY
Married
2 children

HOBBIES
MTB, music

AT AX FOR
20 years

Is there something like a maxim that drives you on managing AutomationX? Put with a good Styrian accent: Geht net, gib'ts net (there is no such thing as "no can do")

Talking about drive: I often watch how a group of highly motivated runners meet up in front of the building and start running all together. What is that all about?

Healthy body, healthy mind. We have our regular sport offering for this reason. External trainers work on condition, but most of all on strengthening the musculature of our employees.

Most importantly, our organisation team provides a really exiting work-life balance and promotes activities outside our everyday work routine at AX. We cannot express our thanks highly enough for this. Because these supposed small things often make the big difference. —

tition. We are convinced we are one step ahead despite knowing our competition never sleeps. We are also looking to strengthen and expand IT security within the GAW Group. This will be a key part of our project work in the future.

What does the 30-year company anniversary mean for you personally?

Klug: I am fascinated by the stable base structure of the company. New employees and those who have been there from the very outset meet on an equal footing, thereby enabling a very high-performance manner of working. It is not possible to rate highly enough the achievements of our employees, particularly in challenging project phases. I have myself been at the company for 20 years and so know all of the departments. I can still remember very vividly my first workday on 1/6/1999. Being a member of the management team for our 30-year anniversary this year meant a great deal to me.

Mühlehner: Keeping a company on course for success for 30 years is a fantastic achievement. This requires in all areas, from engineering to development, personnel management, etc. a high level of tact, and not only from the conductor but from all employees, the orchestra. And I have been glad to be part of this orchestra for the last 13 years. I have been holding the baton for two years with pride, with the goal of shaping the future of the company with even more rhythm and harmony.

An enormous amount has happened, in the last three years in particular. What do you have planned for the next five years?

The growth rates in our core sectors endorse the strategy of the last three years. It is ostensibly now about safeguarding growth for years to come without reaching saturation point. Specifically, it is our intention to grow continually over the next five years in our core industries - building materials / food and infrastructure. This requires strengthening of the sales team, paired with rigorous market development and continual growing of the implementation teams.

We will be continually driving forward product development to address in the long term the target markets with our MES solutions. Continued development of our software products and the resulting customer solutions form the foundation to also offer in five years time solutions that stand out from the compe-

OSMO – in tune with the times.

Text: Christopher Rieth

Photo: OSMO

OSMO Membrane Systems meets challenges for which no standard solutions exist. It embraces the complete repertoire of processes for treating water and process liquids. On the following pages, we try to give you an overview of the processes applied in the respective industrial segments.





OSMO's range of treatments.



MICROFILTRATION

- Separation of micro-particles such as hydroxides, CaCO₃, particles produced during grinding, catalysers
- Concentration of suspensions
- Separation of sludge
- Removal of colloidal substances from acids and bases



ULTRAFILTRATION

- Concentration of suspensions such as water-soluble printing inks and paints
- Recovery of recyclables such as coating inks in the paper industry
- Separation of clouding substances from river water, acids and bases for example
- Dehydration of paint suspensions such as for cataphoretic painting and electrocoating



NANOFILTRATION

- Separating of organic molecules, e.g. for CSB reduction, and cleaning of bases in the pulp and food industries
- Cleaning of acids by separating off metals or organic molecules
- Demineralisation of solutions such as NaCl separation from dyes
- Retention of molecules such as dyes and humic matter
- Separation of multivalent ions such as phosphate, sulphate and hardness
- Concentration of process solutions



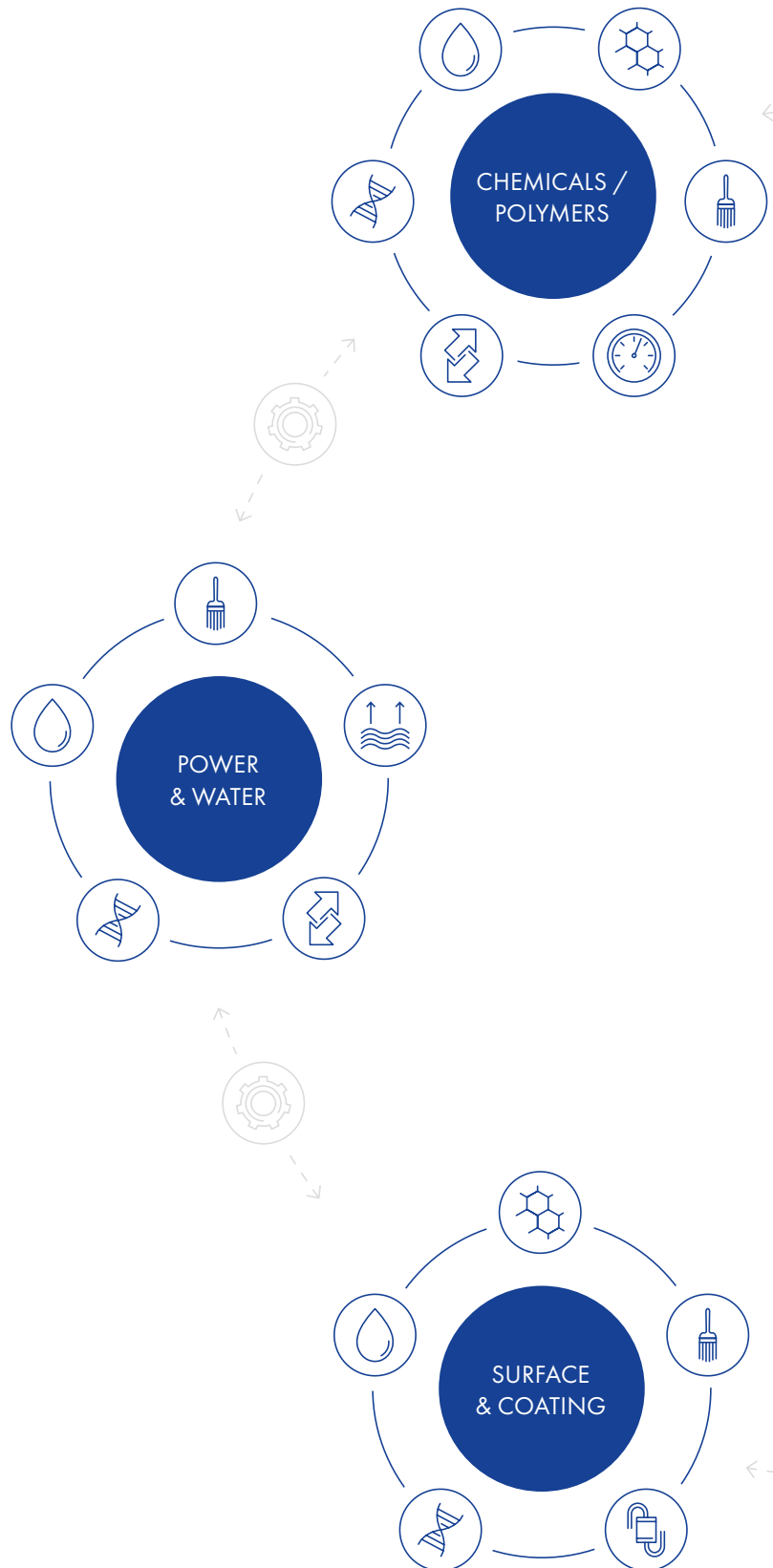
REVERSE OSMOSIS

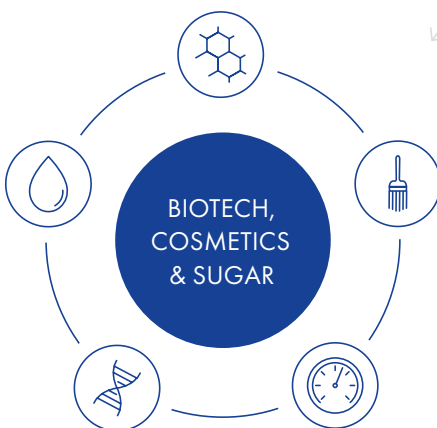
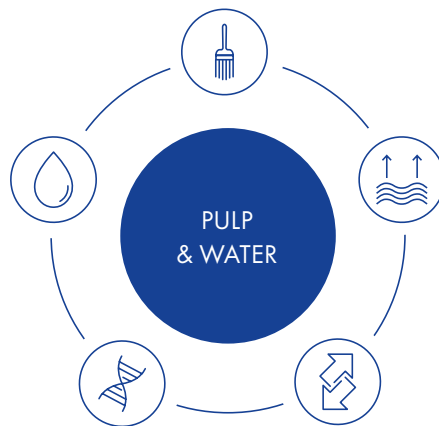
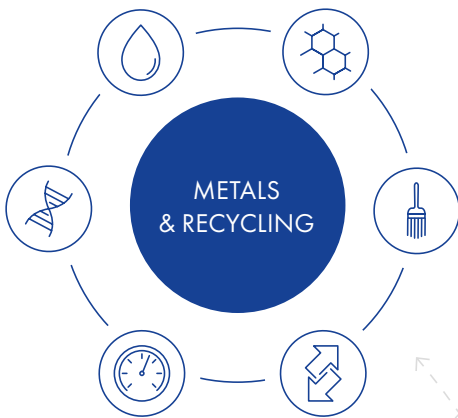
- Demineralisation of water for industrial purposes, such as cooling water, boiler feeder water and process water
- Treatment of industrial wastewaters for feedback into the process
- Manufacture of drinking water
- Cleaning of wastewaters such as landfill seepage water



HIGH-PRESSURE REVERSE OSMOSIS

- Concentration of salt solutions (sodium nitrate, sodium sulphate, brines)
- Concentration of organic substances, e.g. isopropanol, glycol, sugar solutions
- Preparation of high saline process solutions
- Recovery of metals





ION EXCHANGE PROCESS

- Removal of residual dyes and salts from solutions
- Removal of ammonia for condensate processing
- Removal of metals from process solutions
- Complete demineralisation using mixing bed ion exchanger or electrode ionisation (EDI) as in VGB-S-412-2012-09 (previously R 450 L)
- Softening of water



MEMBRANE DEGASSING

- Removal of CO₂ to increase the pH value
- Removal of CO₂ as a pretreatment for complete demineralisation
- Removal of O₂



DIALYSIS METHOD

- Paint bath maintenance for cataphoretic painting systems
- Demineralisation of water
- Recovery of acids
- Recovery of recyclables



ACCESSORIES

- Neutralisation for cleaning solutions and regeneration solutions of ion exchanger
- Pre and post-treatment stages, such as filter stations, heat exchangers, conditioner stations, demanganisation / de-ironing and active carbon filters
- Chemical stores and dosing containers for e.g. regeneration of ion exchangers
- Dosing systems for diverse membrane systems such as antifouling, acids and bases
- Cleaning stations (CIP) having different levels of automation



SERVICE AND MAINTENANCE

- Performing of regular services including checks of operating parameters
- Cleaning of membrane
- Troubleshooting
- Sale of spare parts and chemicals
- System optimisations



PILOTING AND PROCESS DEVELOPMENT

- Membrane screening tests with our flexibly deployable MemCell and Auto-MemCell
- Process development in close collaboration with our R&D department
- Range of diverse test systems to rent and buy

OSMO provides the finest separation technique for the milestone phosphorous recovery project.



Foundation stone ceremony for the Hamburg phosphorous recycling system.
© Hamburg Wasser

At the start of March, OSMO Membrane Systems was commissioned by Hamburger Phosphorrecyclinggesellschaft mbH to supply ultra-fine separator stages for the TetraPhos® process developed by REMONDIS.

Text: Christopher Rieth

Photo: Hamburg Wasser / OSMO

From the sewage sludge of purification plants, the REMONDIS TetraPhos® process is used to recover phosphorous and saleable raw materials having the same quality and availability. For this, the sludge is subjected to thermal utilisation in the mono sewage sludge incineration system associated with the REMONDIS TetraPhos@ process, and the ash is subjected to wet-chemical treatment. The ash here is dissolved into diluted phosphoric acid. This phosphoric acid solution enriches with the phosphorous part of the ash and is then filtered and cleaned. This enables RePacid phosphoric acid to be recovered for industrial applications and fertiliser production. Also, iron and aluminium salts are generated, that in turn can be used for phosphate elimination in the sewage plant and close an additional important cycle. Another recyclable produced is gypsum for the construction material industry.

OSMO has already delivered the membrane separator stage for the pilot system installed at REMONDIS since 2015. The initial place of use for the pilot system was the Hamburg sewage treatment plant in Kohlbrandhöft. After the successful pilot phase, a large-scale system is being realised in Hamburg by Hamburger Phosphorrecyclinggesellschaft mbH, a joint venture between REMONDIS and Hamburg Wasser.

Phosphorous recycling in Hamburg is being funded by the Federal Ministry for the environment, nature conservation and nuclear safety.

The system will enter operation in 2020, and from around 20,000 tons of sludge ash every year will produce around 7,000 tons of ultrapure phosphoric acid, 36,000 tons of iron and aluminium salts and 12,000 tons of gypsum.

For the first time around the globe, this method can be used to recycle economically and efficiently the important raw material concentrating in the sludge ash during wastewater purification. There is only limited worldwide availability of phosphorous, but it is essential for plant growth and so for food production overall.



Sample photo



After the successful pilot phase, a large-scale system is being realised in Hamburg.



thomas
GRAZ - AUSTRIA
www.sped-thomas.at

We are getting things moving.

Our market is the world. And for our technologies to also arrive at customers speedily and reliably, the THOMAS and FERSTL freight forwarders are developing tailored logistics solutions. And that is what they have been doing for more than 30 years.

Text: Marc Pildner Steinburg

Photo: Niki Pommer & THOMAS

Over its more than 30-year history, THOMAS freight forwarders have already moved a lot and made the seemingly impossible possible. Always customer-oriented, striving at all times to provide professional and personal consultation services, the family-run company thinks well outside the box to have in place the best possible transport options. The worldwide partner network, which includes professionals in every area of transportation transactions, ensures end-to-end checking over the entire transport route.

The previous year saw FERSTL freight forwarders join the THOMAS group. As a customs service provider specially certified by the authorities (AEO-C), their services are offered now to direct customers as well as across the sector as a neutral partner.

We met up with company founder Karl Frühauf to chat about his personal career, the growth of the company, business models, enthusiasm for the industry, partnerships and generally about family businesses in the transportation sector.



Managing Director at
THOMAS Karl Frühauf.



The first charter flight at Graz Thalerhof airport.

When in 1987, together with the GAW Group (Jochen Pildner-Steinburg), THOMAS freight forwarders was established, they were already able to look back at successful careers at Huber freight forwarders in St. Marein. How did the initial contacts with GAW come about?

Going back in time a little more. In 1978, I was a trainee at Schenker and we were already carrying out transportation jobs for GAW. After switching to Gebrüder Weiss, I was also responsible for GAW. In 1985, I became managing director at Huber in St. Marein, where previously the development department of GAW was.

When did more come of it? How did this partnership with the GAW Group come about? What was the reason? How did you join forces?

We were in contact continually and at some point in Café Huber we had the idea of doing something together. The timing was ideal. The pile of orders at GAW was high and somebody was about to take maternity leave in the Dispatch department. In July 1987, we then commenced our activities in Puchstraße. At the start there were three of us, Ms. Geschrei, my wife Susanne and myself.

The company evolved into an all-in-one service provider, offering transport-only business as well as comprehensive services in logistics. In which steps did this growth take place? What were the challenges needed to be overcome? What are the memorable moments, or projects, you remember?

Originally, our transportation service mainly spanned the cen-

tral European area. And the time at the beginning was really exciting straight away.

We shipped two rollers from a paper factory in England to Gratkorn, to the then Leykam paper factory. This was one of the very first freight charters to land at Graz/Thalerhof airport.

As part of the wave of modernisation of the paper industry in the USA, we began at the start of the 1990s to take on more and more transportation business over the Atlantic to the North American region. And from then on to the entire world.

To what extent has your business model changed here? Nowadays you are offering solutions and services that would have been inconceivable in the 1990s and 2000s.

When we started out in 1987, our business model was simple



EUROSTAR (paint spray booths)
From Eisenez directly.

- 60 % of orders were to come from GAW and 40 % was to be acquired in addition. Now 90 % comes from third parties and 10 % from GAW. Of these, two hundred are customers with which we have a continual business relationship. We can certainly speak of successful customer acquisition.

It was difficult at the outset because we as a small niche player offered everything, really everything, in all business areas, but we were not really perceived as such. But over the last six years since my son Thomas joined the company, our “open book basis” approach has grown magnificently. Customers also benefit enormously from this transparent form of collaboration. They know the extra charges, receive our expertise and are not subjected to any nasty surprises. The development of our industry has been really fantastic.

In 2013 for example, we entered into a partnership with the Heavy Lift Group, a network for heavy transportation. Up to that point, I thought I had transported big things, but looking back everything was somehow small after all.

Since 2014, we have also been a partner in the Atlas Network, providing us access to 220 locations in 96 countries. All of them small and mid-sized businesses, just like us. This would have been inconceivable 40 years ago.

[This sounds like real enthusiasm for the industry?](#)

That is certain true for somebody like myself who has been fortunate to be active in freight forwarding for the last 40 years. The whole industry has undergone transformation three times in this time. The driving forces here are clearly new developments in IT, internationalisation and stricter requirements of customers in contract logistics. All this has made the freight forwarding business very complex, extremely demanding but also exciting.

[How have relationships to customers changed in this time? Real partnerships – do they still exist today?](#)

Oh yes. There is still real partnership. We are able to count some companies with whom we have been doing business for 30 years. This is not something that can be taken for granted, and it is an extraordinarily wonderful thing to grow continually with these companies.

But there are also many customers who only take the cheapest service providers. The generations are changing. The willingness of customers to change suppliers is now higher than at the start of my career.

Another factor is that transport companies today are transparent – thanks to IT, the customer has the same data as the service provider. On the other side, the increased dovetailing of IT systems means transport companies are moving “nearer” to their customers. Nowadays we are virtually part of the customer's company.

[Against this backdrop, how do you see the future of family-run businesses in the freight forwarding industry?](#)

Family-run businesses have a future in the freight forwarding



Kaohsiung – Dürnröhr,
33,0 x 5,8 x 5,8m.



Gratkorn – Kaliningrad.



Graz – Marysville,
Charter of a B747.

Mumbai to Jurong Island - 7.85
x 8.35 x 8.45m.



industry. I am convinced of that. A prerequisite however is an unconditional willingness to adapt to customer needs. Also, the strengths of family-run businesses should not be underestimated. They have major pluses - they are owner managed and in the best case think well outside the box. They are presided over by a businessperson's personality and not a manager. Decisions are quick.

Also, over all the years in partnership with GAW, we have learnt to think like the Dispatch departments at industrial companies, and this ability is invaluable even today.

If a company is looking to be successful as a family-run business in the transportation business, those things deemed good today must be questioned as early as tomorrow, and be changed immediately if need be.

What does the future hold for THOMAS freight forwarders? FERSTL was acquired recently. To what extent has integration into the organisation progressed?

My friendship with Alfred Ferstl has meant we have held discussions every now and again about someday acquiring FERSTL. If I remember correctly, we started thinking about it back in 2010. It actually did happen in 2018, and FERSTL freight forwarders with their highly competent workforce and two sites (Lastenstraße and Graz Cargo Centre) joined our group.

At the Cargo Centre in Werndorf, under Ms. Hochfellner, six employees who have undergone the best training work as customs agents with their own customs office. As a customs service provider specially certified by the authorities

(AEO-C), the freight forwarder offers its services to our direct customers as well as across the sector as a neutral partner. Mr Ferstl continues to support us as a legal adviser and contributes his extensive entrepreneurial wealth of experience and judgement.

Integration into our IT landscape took place over the whole of March and the system is running smoothly. I would like to take the opportunity right now to thank the GAW computer centre and IT.



Hamburg to Morocco - diameter
13.6m, height 4.5m

THOMAS partners
Karl and Susanne Frühauf
and son Thomas.



You are a proud grandfather of two grandchildren and have already been working with your son Thomas in the company for six years. Can you provide a picture of how this collaboration works? How do you, coming from different generations, not get on each other's nerves?

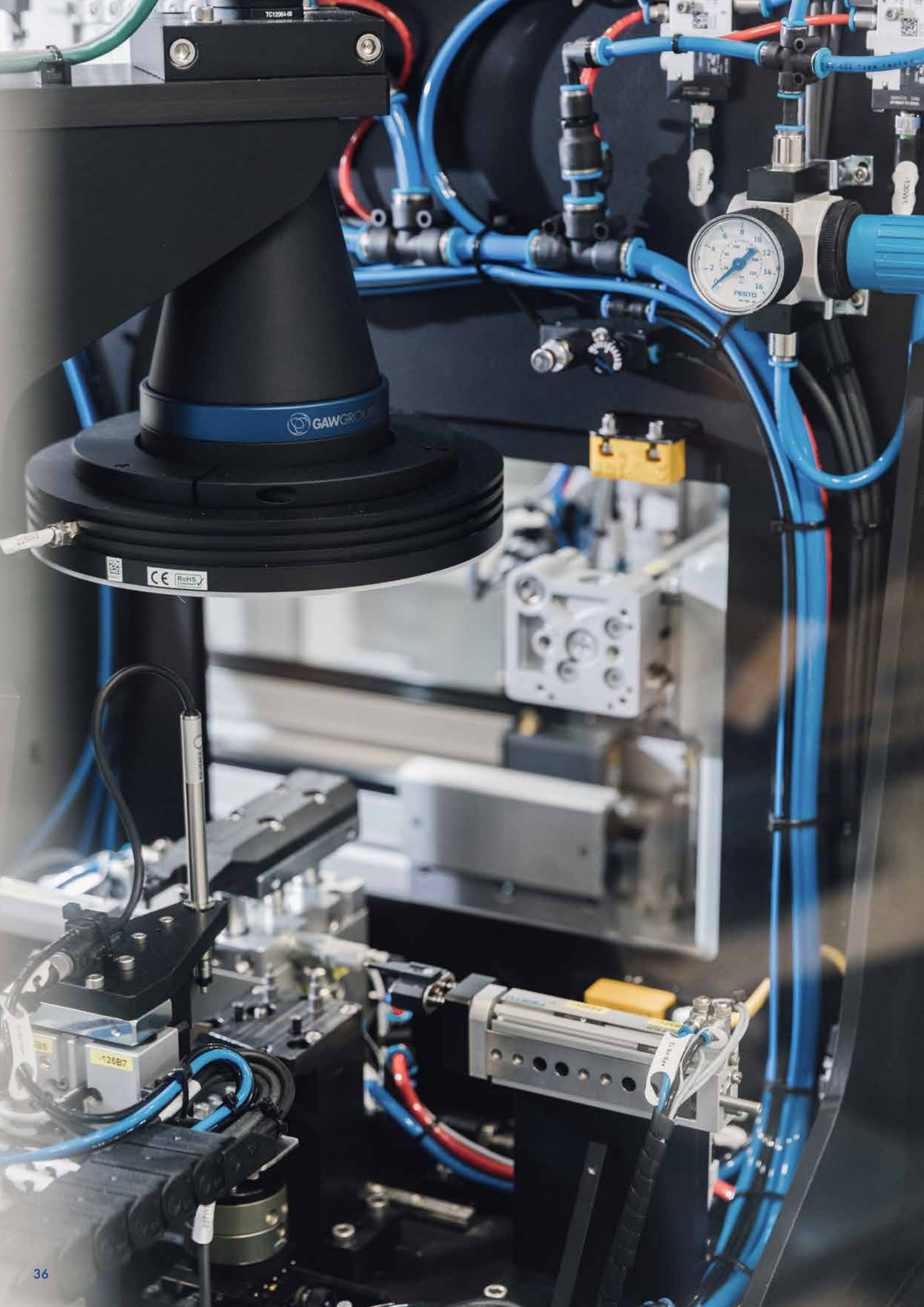
The first rule is that conversation at home is never about work. This might not have always been the case with my wife over the years but works all the better with Thomas.

The second rule is that if the mark is ever overstepped, we get together the next day to establish together that it was not necessary that way.

Feathers must sometimes fly. There must be this confrontation between young and old because this is how experience is gained in life. This is the only way to keep things moving, and you learn how many interpersonal cogs need to be turned. How to do this is not something you can yet look up on the Internet. And because I was not able to spend much time with my family at home during the founding years, it is now about catching up. When my wife and I now spend time with the grandchildren, we enjoy it properly and to the full.

Significant projects in the history of THOMAS:

- CaPPE – from Mumbai to Jurong Island (Singapore) – 6 containers each 7.85 x 8.35 x 8.45m
- PIA Automation – from Graz to Marysville, US – charter of a B747 + 2 scheduled flights + sea freight – 1200m³ air freight
- CPPE – from Hamburg to Morocco – 2 chartered ships each with 6 modules; diameter 13.6m, height 4.5m
- BT Wolfgang Binder – waste recycling system (China) – 120 containers



In best possible focus.

M-TECH Systems is the first point of call for companies whose highly automated production processes require functionality such as high-resolution machine vision, precision positioning, manipulation and adjustment, highly-accurate bonding and joining, and reliable measuring and testing.

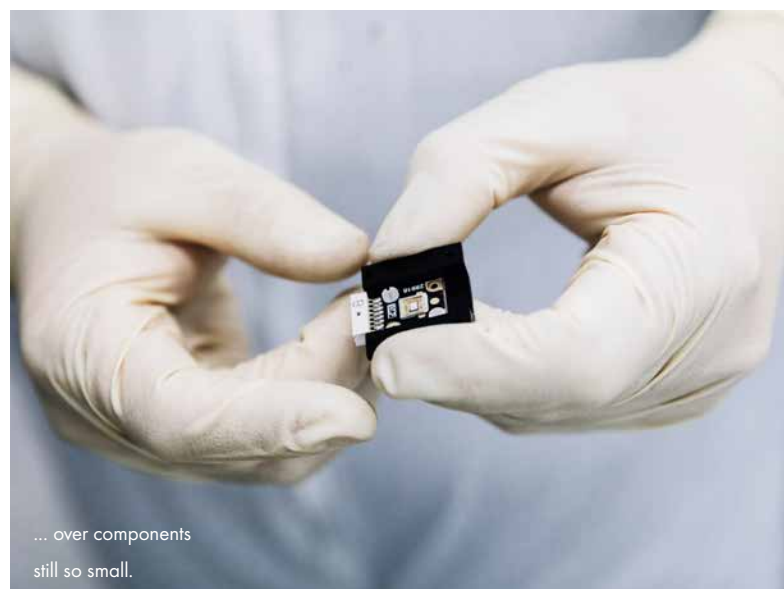
Text: Marc Pildner Steinburg

Photo: M-TECH Systems

The company works with the precision of light to realise, using technologies developed in-house, production, measurement and test methods for products that would not be achievable using conventional methods. The technology developments of M-TECH Systems include products and components, as well as opto-electronic and micro-electromechanical system solutions and production methods for forward-looking applications. These include for example:

- LED/laser/display light sources for the automotive industry
- Micro and augmented reality projectors, production and test systems for medical equipment.
- Fully integrated machining, test and packaging lines for the abrasives industry.
- Production lines and custom machining equipment for high-precision, glass, ceramic and metal working.
- VR display systems for flight simulators.

The cross-sectional technologies of the company offer enormous potential for cooperation between the process, specialist and custom technologies of the other group companies. For the GAW Group, acquiring M-TECH Systems means a broadening of competence in the field of custom machinery and plant engineering for industrial automation with a focus on precisely these manufacturing and quality control processes. We requested Mr Hermann Fröschl, company founder with a significant shareholding in the company and managing director, for a short interview.





Hermann Fröschl, managing partner.

Mr Fröschl, thank you for taking the time for this brief interview. You manage the business and are also responsible for Sales. And so are on the road a lot. Just how often are you travelling? Still for a good two weeks every month. Whereas it was a bit more before, so 90,000 km in the car and 70,000 miles on planes. These days I am managing around 50,000 km in the car, and the time on planes has stayed about the same.

Even before M-TECH was founded, you were able to gain experience over decades in the field of custom machinery manufacturing. Could you please provide us with an overview of your career and some of the places you have worked?

After completing my course at the Montan University in Leoben, I worked for Voest-Alpine in Zeltweg for five years, responsible for projects in Australia and South Africa (coal mining machines).

The initial period at a large company was a wealth of experience, but it was still my wish to get to know smaller company structures. Being able to start at Vexcel Imaging as employee number 8 meant switching mining for the cleanroom. My role then was probably best described as “Jack of all trades with a focus on product management”. Back then we developed the first flat-bed scanner, as the “predecessor” of the copiers of today.

A major part of the firm was sold to a Danish company, that soon lost interest in it however. Then, left to ourselves, it was about searching and finding new customers. We then succeeded in placing the scanner into a forensic application.

After extensive tests, we gave up on the business segment of

the printer industry and ended up in digital mapping. We developed a high-resolution camera that could be fitted into planes, for “mobile land surveying”.

I increasingly had the feeling of wanting to be self-employed.

... and then took the step in 1998 to form M-TECH Engineering. How did this decision to form your own company mature? What was driving you? Which market prospects did you start with?

Vexcel was a textbook startup company. I learned there how it is possible to win over customers with good ideas and enthusiasm. Incidentally, the size of the company was never a decisive factor in whether a customer placed its trust in us.

When our first two children were born, it was clear to us that we wanted to settle down in Carinthia and raise the children in this picture postcard part of the country. My desire to become self-employed had since grown to a fixed idea - to dedicate myself to “machines with vision”.

So we planned our move to Carinthia and I took the steps to start the company. I had saved up the money to do so and could just about afford the first computer. I did not really have any market prospects. In the initial phase, we had to generate turnover and so I first offered my services as an engineering office. We initially drew up just design plans, but then our customers wanted to buy the machines as well as the plans from us. And so we delved deeper and deeper into what was required.

When I was then entrusted with a bigger order for the planning of a glass processing system, I was able to take on our first employee. A technical college graduate responded to a €1 ad. He called me when he found out the company he was at had gone bankrupt, and then came straight round to me. He was even prepared to bring his mother’s PC and the chairs from a child’s bedroom. We started work in the abandoned kitchen of an old guesthouse and managed to complete the order.

2006 saw us receive our first appreciable order from the automotive industry, from Magna to be precise. At this point we also started M-TECH Systems, and have grown continually ever since.

Is there something like a maxim that drives you managing M-TECH Systems?

There is for sure. Address the needs of the customer but still keep an eye on the capabilities of the team. A benefit for M-TECH must also be of benefit to customers and employees. That’s it.

Looking more closely at the strategic core sectors of the GAW Group, we can categorise M-TECH Systems in the cross-sectional technologies, with the expertise of the group being broadened in regard to automated production and quality test processes. You have now been a member of the GAW Group for nearly a year. Have the first networking and project cooperation internal to the group taken place?

Yes, we are thankfully already working on a project together with AutomationX. It is about complementing our expertise in

“machine vision” with the expertise of AX in process control. This means an enormous gain in quality for the customer. We see this as the first important step towards internetworking our core competence with the expertise of other companies in the group.

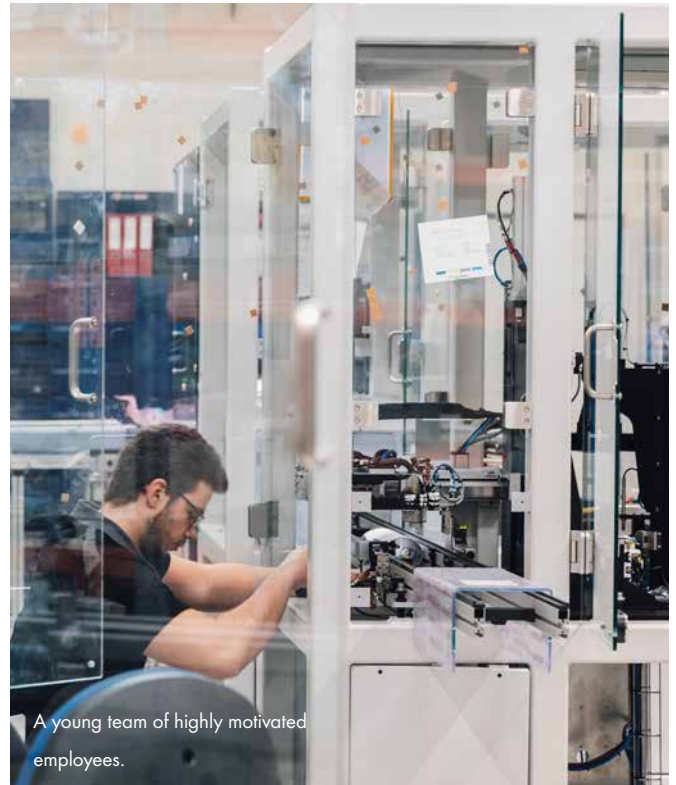
When we visited you for the photo session, we could see a young, highly motivated team at work. Does the physical proximity of the site to the technical college learning institutions for Mechanical Engineering, Electrical Engineering and Mechatronics, and the University of Applied Sciences for Mechanical Engineering, play a role here? Or, put another way, how do you succeed in finding the next generation?

Two excellent technical colleges have been established in the direct vicinity of our company. We are continually holding events for the colleges, inviting students in and assigning final year projects, and occasionally donate new IT equipment. We also decided recently to take on some of the college students as apprentices. We are continually working to take on board young, talented people, are attending exhibitions and are holding presentations at colleges and universities (of applied science). The HR department has a sizeable marketing budget. We want to be an attractive employer for young, talented people.

In terms of location. In regard to the company expansion, you expanded by an entire floor only this year and now offer employees an additional 120 m² of floor space. Have you already moved in to the new offices?

Yes, the offices are occupied and the conference room has proven its worth. Only yesterday we held an internal event for a college class. We are finally able to offer appropriate facilities for such events.

Thank you very much for the interview and we look forward to presenting one of your spectacular systems in detail in a future edition.



A young team of highly motivated employees.



... carefully adding the finishing touches.



Insight into a system from M-TECH Systems.

ECON on the wings of success.

Many congratulations for the silver Pegasus 2019!

Text: Uwe Neumann

Photo: ECON



For the award ceremony on the stage: Announcer, Dr. Löffler (KPMG), Uwe Neumann, announcer and Sandra Luger.



The coveted awards.

For 26 years now, the largest and most reputable daily newspaper in Upper Austria, the "OÖ Nachrichten" has been awarding prizes to particularly capable companies within the state and bringing them up onto the stage. Trophies for four different categories and two special awards ("Women in executive positions" and "Corporate lifetime achievement") are awarded as part of a glittering gala by a high-ranking jury made up of company managers and business journalists. The date for it this year was 6 June and ECON was there as a nominated company.

Beforehand, an ECON team specified the category in which ECON would like to compete for the Pegasus 2019. We opted for the "Innovation kaiser" category because ECON, as a

worldwide technology leader, wants to consolidate its market position here and worked out its best chances. The project that was submitted was the one first introduced to the public by ECON at the Plastics exhibition, and with which the previous solutions in plastics granulation are improved drastically. With these solutions, ECON attains in the future far higher productivity, considerably improved workplace conditions and sustainable production with much less waste volumes compared to conventional systems. Under the guidance of CSO Uwe Neumann, the application documents were compiled and submitted.

For all companies, receiving this business award in Upper Austria means high levels of appreciation for achievements attained. All the more exciting then was anticipating the nominations - because more than 300 companies applied for these awards.

We then received the news on 25 April that ECON was amongst the ten nominated companies in the category. This alone is a great success because competition in this category is fierce amongst innovative companies in Upper Austria. With the nomination was also the invitation to the gala at the "Brucknerhaus" in Linz.

The big date was 06/06/2019. ECON was represented at the high-level gala by Sandra Luger (CFO), Stefanie Zach (Marketing), Michael Wöger (Director ECON China) and Uwe Neumann (CSO). Nearly all big companies in Upper Austria, and also political heavyweights such as State Governor Stelzer, took up the invitation from the "Oberösterreichische Nachrichten", under the patronage of the "Raiffeisen Landesbank".

Then came the climax. The ten nominated companies in the "Innovation kaiser" category were presented on the large screen with celebratory announcements. Dr. Löffler, Regional Manager of KPMG in Linz, opened the first envelope for the bronze Pegasus – it was not ECON. After a brief interview on the stage, the second envelope was brought over and opened. And then name ECON was announced and a film about ECON started on the large screen. At the same moment, a spotlight shone on Sandra Luger and Uwe Neumann, lighting them up as they went up onto the stage. Still a little surprised, the two accepted the award on behalf of our CEO Gerhard Hehenberger (who was on an important business trip).

After a brief interview on the stage, the two positioned themselves on the winner's podium. Beaming with the award in their hands, they made contact with the other winners. After the award ceremonies in the different categories, it was time to accept the congratulations from other companies.



The happy ECON delegation after the award ceremony:
Uwe Neumann (CSO), Stefanie Zach (Marketing), Sandra Luger (CFO), Michael Wöger (Director ECON China).

With high levels of commitment and ambition, ECON keeps succeeding in emerging as THE global pioneer in granulation technology. This business award is an accolade for all employees at ECON. Increased awareness of ECON in the public domain is very important in that all of the ECON workforce can identify themselves stronger with the company, and also ECON is provided a platform that simplifies the search for new employees and trainees in the region. Furthermore, the recent past has seen the acquisition of customers from Upper Austria who have been helped by this event in their decision to opt for ECON.

The happy faces of the ECON delegation and the positive feedback from inside and outside the company for winning the silver Pegasus 2019 motivate us all to keep pursuing our previous path in a professional and committed manner.

ECON's "China-1" at Chinaplas 2019.



After the successful founding in 2018, the first big, public event awaited the team of ECON China at Chinaplas 2019 in Guangzhou. Expectations were high as ECON presented the first underwater pelletiser "made in China". Based on the successful business model from India, key components are manufactured at the main Austrian plant in Weißkirchen/Traun, and the machine is then completed in China.

Experienced fitter Andreas Piber travelled to China in March so that the Chinese team could set up the first machine at ECON China under his professional guidance. Collaboration between the Chinese and Austrian employees was perfect - meaning the time scheduled for assembly was more than required (although some specific obstacles had to be overcome). Following a quality check by an Austrian team in April, passed



successfully, the EUP150 with serial number “China 1” was to be presented to the public at one of the largest exhibitions for plastics. Expectations were high and the team around office manager Michael Wöger tensely awaited the exhibition. How would Chinese visitors, and all other international guests, respond? Would this be the starting gun required in the Asian market? How would competitors from Europe and America view us?

To present it the best way, the machine was transported to Guangshou and fully assembled by the Chinese team on the stand of the Austrian pavilion. Michael Wöger and Uwe Neumann (CSO ECON GmbH) also then visited the booth on the day of the official opening. Both were reassured by the high quality and how the machine was assembled excellently. After some final preparation, Chinaplas 2019 opened its doors.

Shortly after the exhibition opened, the first Chinese and international visitors flocked to the ECON stand. The Chinese in particular were positively surprised that the leading and well-known ECON technology is now also available “made in China”. It is all associated with service organised in China and spare part management in the “Middle Kingdom”. Particularly high importance is attached to service in China. The response times of ECON to end customers will also be a key factor in the future. The precise reason why ECON has taken on in Olli Deng an experienced and customer-oriented technician at ECON China. Many interested parties from China and also many other countries besieged the new pelletiser. The overall machine enjoyed high levels of interest and a large number of new contacts were made.

At the exhibition itself, ECON China was assisted by employees from Planet Asia, an established and proven sales partner. To really get through to customers, having Chinese-speaking sales personnel on board continues to be of great importance. By doing so, it was possible for us to provide many interested parties with qualified information.

Because the size of the market in China, in regard to market research and active market development in particular, requires additional capacities, Mr Wöger together with Chinese general manager Alex Wang have been on the lookout for another sales partner for some time. The search was finally over in the form of Ingochem, a company having extensive experience in compounding and to date selling professionally other premium products from the complementary range of ECON. Final discussions were held in May, with contractual details being agreed in the run-up to Chinaplas. Official signing of the contract then took place at the ECON stand at Chinaplas.

Following a week of intensive exhibition activities in Guangshou, ECON China came to an extremely positive conclusion. Many interested contacts and some concrete projects could be generated. ECON Sales as well as the sales partners now

need to follow up the contacts and generate orders as soon as possible. This phase is one of the most important activities of exhibiting at a fair. The good news too is that the first machine from China, “China-1”, has found a customer, with contractual finalisation to take place soon. So, the pelletiser will soon be delivered and be used as a reference for many other orders. In light of the great success, ECON has already decided to make the first larger machine in China, an EUP600 underwater pelletiser. This process has also been started already.



UNICOR for SAP.

More servers, more clients. UNICOR was successfully integrated into the SAP system in April 2019. How such a challenging system switch can work and what the computer centre at the GAW Group looks like are explained by Ingomar Gaksch, Head of IT / Computer Centre at the GAW Group.

Text: Marc Pildner Steinburg

Photo: GAW Beteiligungsgesellschaft

GAW computer centre equipment, facts and figures:

- 2 main server rooms and 3 secondary server rooms
- Network of 8 sites mainly using A1-TELEKOM leased lines
- Multiple Internet connections
- 2 redundant firewalls, external and internal
- External access into our system
(> 100 VPNs, > 30 support, > 150 remote users)
- 3 ERP systems
- 7 CAD systems
- 1 CAE system
- CITRIX
- Approx. 100 live servers
- Approx. 250 test servers
- Approx. 10 SAN (some all flash storage) and approx. 10 NAS
- Many more than 2,000 devices in the network
- Over 350 mobile devices
- Approx. 400 users in the network

Making investments possible that could not be managed by a single company: the central computer centre.

Mr Gaksch, you are not unknown at GAW. Quite the opposite. After 33 years at the company, everybody in the firm will have had contact with you. But can we still ask for a brief introduction?

Of course, Ingomar Gaksch. In 1985, a temp agency found me a placement at what is now GAW technologies. After I was able to learn in the electrical department at GAW for two weeks, Klaus Stuffer signed me up on the spot as a technical drawer. In the first project, for Leykam back then, I became familiar with Stuffer working hours - from 07:00 to 02:00 in the morning. An unforgettable example that certainly left its mark on me.

When the first CAD solutions then emerged on the market, a UNIX system was purchased specially for me for the Plattling project - for the then princely sum of ATS 1.5m. That was a jump into cold and deep water. Armed with a book, or sort of operating instructions, I was allowed to start right away and within a short time became the "one man band", drawing everything for all project managers. So, I became the unofficial CAD manager of a team of four people, that would reach a peak of 23 employees.

When we then dealt intensively with organisational development in 1998, and amongst other things identified the necessity for an ERP system, the idea to introduce such a system was born. After we had carefully got to grips with realisation of the processes, management first offered us for selection three systems, and then "surprised" us with SAP.

And the surprise worked. Then in November 1999, full of energy, we began the server work and were able to go live on 01/03/2000, the same day the Euro was introduced. It was the start of a new era, and for me personally, because I was entrusted with the IT manager position. Then it was about combining the UNIX worlds (CAD and SAP) with Windows and all the telecommunications. The companies in the group were networked gradually company by company, and some were integrated into the SAP system as separate company codes.

More and more servers – more and more clients. And the system has grown. Just how it has! From three to now far more than 300 servers.

Since the founding of the GAW holding company in 2018, the computer centre and IT have been located there. How did this happen? How is your team currently set up?

Previously we were assigned to GAW technologies as an administration department. But half of our responsibility was for other companies in the group. When the GAW holding company was set up and we moved there, it opened up enormous possibilities for us. Suddenly, investment in a central computer centre was possible that a single company was not able to block. I would love to introduce the team! (refer to the information box on Page 47, note)

What about the cliché about an IT specialist being unknown and afraid of people? That perhaps applied in the past. Today we have a highly communicative group who operate with enormous service orientation, and who are contactable and on standby

virtually around the clock. You are so to speak the helpdesk and technical department rolled into one. What would be a "normal Monday" for your team?

A normal Monday for us begins on a Sunday, when we start the central servers to counteract problems in a preventative manner. It then starts at 06:00 on Monday morning. All of us start the day with standardised, routine work with monitoring and similar tasks. In parallel, we work on long-term planning of our large IT projects. In line with the plan, we face the pending challenges and prioritise our activities accordingly. Prioritisation in particular is essential.

When an extraordinary event occurs, such as a server crash, virus infestation or hardware defect, so for incidents that are a threat to the system, we pool all of our forces and immediately work on rectifying the problem. This means scheduled priorities no longer apply. Maintaining operation of the system now has priority and users must not be affected at all by potential problems. Not even noticing anything would be even better. There is a funny saying amongst IT people for this: "The best IT is where the end user doesn't even notice it exists".

There are also responses at short notice for rectifying diverse user problems and assisting our colleagues - called first and second level support. We use a ticketing system for coordinated actioning of tasks.

And then there are large projects set out over longer periods, such as company integration, Citrix update and system rollout (for a document management system for example).

Which now leads us to the specific project at UNICOR, which is being reformed into a project organisation. SAP was also introduced at UNICOR as part of it. A huge project. What was the initial situation? How did you go about it? Were you able to master the project?

The decision to introduce SAP was made at the start of 2018. The system then was in need of improvement and not integrated, and Logistics was separate from Finance. The system landscape was broad, with a high number of interfaces and so entailing enormous data volumes.

In the first meeting between our team and those responsible for UNICOR, we noticed immediately that the chemistry was right and we were all pulling in the same direction. This gave us and the project the correct impetus straight away. This is because interpersonal relations may never be discounted for such a challenging task.

In the following step, UNICOR compiled internally thorough process analyses under Mr Jochen Koch. We dedicated ourselves to the basic preparations as regards interfaces and master data. For the other preparations, Mr Wittmann from ATOS, a senior SAP consultant with whom we have been working for a good 20 years, joined the project team.

When the data link was then also available in October 2018, the project started. But shortly before there was the first harsh setback. Namely the person on the UNICOR side who had merged all of the IT networks up to that point was no longer available



Ingomar Gaksch,
Head of IT Computer Centre at the GAW Group

to the project. This was initially a crushing blow and meant the project manager faced a big challenge.

The steering committee put together by UNICOR and the GAW holding company realised immediately in an efficient manner there was an urgent need for action and decided straight away to extend the project team. Mr Patrick Pfrang (Purchasing), Ms Pamela Wacker (Production planning) and new Head of IT Mr Zösch were able to dedicate all of their work time to the project. Otherwise scheduled go-live of the system would not have been achievable on 01/03/2019.

From this point on, there was an alternate 2-weekly pattern of us being on site at UNICOR in Hassfurt and vice versa, the UNICOR team in Graz. And this continued for three workdays per week.

So we are now already in December 2018, right? So it seems that time had slowly started to pass a little quicker?

You could say that, yes. There was from January 2019 onwards an increased awareness of the approaching integration tests and imminent go-live. We increased our work loads once again and were almost exclusively working on UNICOR issues, and also more on site at UNICOR. And despite this, the initial integration tests in January and February were more setbacks than successes. It was clear to us that we could not put into execution the actual conversion in coor-

dination with the GAW holding company and UNICOR until 01/04/2019.

Integration tests, that sounds interesting. Can you please give us laypeople a brief insight into how they work?

In integration tests, we run through hypothetical business cases that we plan precisely beforehand in a near-realistic scenario.

In the end, three integration tests were performed in 2-day workshops on site at UNICOR. That was an intensive experience.

An additional difficulty was that the health of some important project members failed, and this took its toll. For nearly seven weeks, Mr. Wittmann was only able to be involved remotely over the phone, two SAP key users dropped out completely for two months and the Production manager had to retire due to illness. All in all, no relief for the approaching go-live start, but we all rigorously kept our eye on the ball. During the start of the go-live process, accompanied by a 3-day standstill of production, some team members had enormous data volumes to transfer and migrate from the old to the new system.

On 01/04, we could actually go online and announce successful SAP integration. Clearly such a big system change with dovetailing over a number of interfaces to third party systems entails continual optimisations, even after the go-

live date. In this regard, we had over 200 tickets to action in the first two months, and we are still working on them. But the system is running and is running better and better.

At this point, we would like to express a big thank-you to the UNICOR team. The frank and results-oriented cooperation was a real joy. The working atmosphere amongst the team was sensational.

So what is next in the computer centre? You are already busy with the next projects?

For this year, we have a whole lot planned or are already in the middle of it. Network optimisation is generally a subject that occupies us continually.

At the moment we are installing our new "all-flash storage" a second time for redundancy in the second external server room - to increase again the system's level of data security. Continual optimisation of the system, increasing levels of security and performance yet at the same time guaranteeing virtually 100 % system availability, are our highest priorities at all times.

September will see an upgrade of our Exchange Mail server system. Accompanying this is the introduction of an archiving system, DokuWare, for SAP and mail archiving to replace an existing system. And in December, it will be Santa as well as a Citrix update coming for all group companies. We are talking here of hundreds of user programs and almost 30 servers that are being updated.

In the coming year, probably in March 2020, LÖMI will go live in SAP as a separate company code.

The GAW Group computing centre/ Basic idea:

The computer centre makes possible investments in professional hardware and software because the costs for them are split across the individual companies. A single company for example could not afford an all-flash storage solution with a list price of nearly €400K. In the computer centre, we operate this type of central storage in mirrored mode.

We run the entire basis in SAP, and en-

hancements are within a sensible framework. In SAP, we currently support five company codes and another three are planned for the long term. One company alone could not support SAP itself. Within the IT department, made up of six specialists and a trainee, we are able to organise the many remits and have representation rules in place. If IT was not run centrally but decentrally, the overall costs for personnel, hardware and software required would be disproportionately higher. So we are using the synergies.

“Milestones of information technology at GAW from 1985 to 2019”

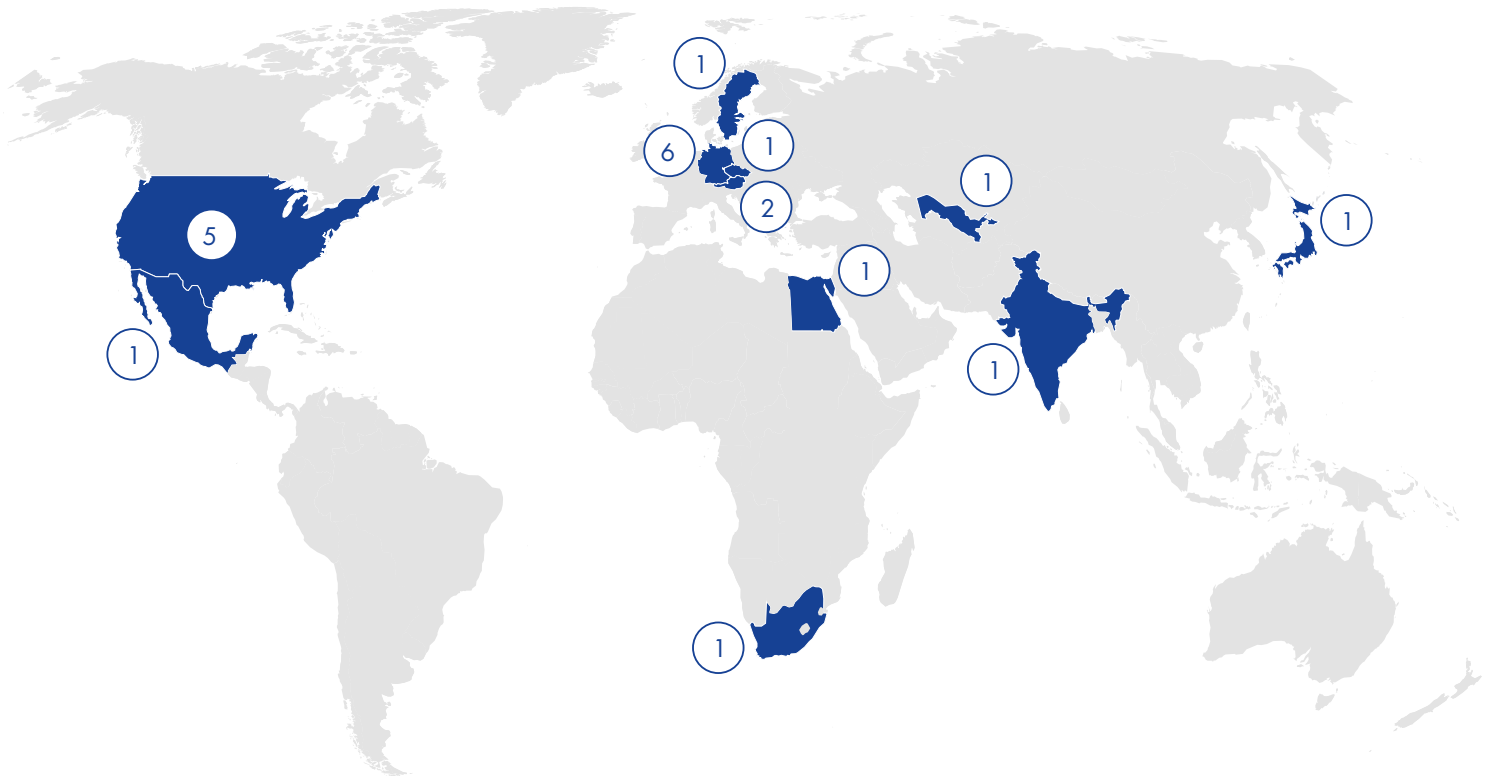
1985	Standalone PCs (e.g. for costing), no mail system, no network, no Internet
1986	Introduction of CAD under UNIX, network
1996	Introduction of a mail system and Internet access
1998	First networking between 2 sites (Graz-Kapfenberg)
01/03/2000	Set-up of the GAW IT department Merging of the UNIX and Windows worlds over a network Go-live of SAP at GAW technologies
2003	Inclusion of IT at MAW into the overall GAW IT system
2006	Inclusion of THOMAS freight forwarders into the overall GAW IT system
2007	Inclusion of IT at OSMO Germany into the overall GAW IT system
2007	Inclusion of IT at ADER-RSE Germany into the overall GAW IT system
2008	Go-live of MAW SAP
2008	Inclusion of IT at EMC into the overall GAW IT system
01/01/2009	Go-live of ENVIRGY SAP
2010	Inclusion of IT at ARTEC into the overall GAW IT system
2014	Inclusion of ECON into the overall GAW IT system
01/11/2015	Go-live of ECON SAP
01/03/2015	Go-live of AutomationX SAP
2016	Inclusion of AutomationX into the overall GAW IT system
01/03/2018	IT department “moves” to GAW Beteiligungs GmbH and establishing of the GAW Group computer centre
01/01/2019	Integration of IT at FERSTL freight forwarders into the overall GAW IT system
01/04/2019	Go-live of UNICOR SAP

Team

Ingomar Gaksch, at GAW since 1986	Head of IT compute centre at GAW Group, conceptual design and strategy, budget, SAP basis, head of special projects, manager of SAP introduction updates, data protection, telecommunication, security
Friedrich Kölbl, at GAW since 1990	Server installations, CITRIX, special software projects, SAP programming, mail system, data protection
Mario Wlattnig at GAW since 2001	First and second level user support, updates and anti-virus scanners, CAD, custom installations, mobiles, printer peripherals, hardware installations
Walter Reisinger, at GAW since 2018	Server farm, network, server virtualisation, backup concept, firewall
Jakob Glanzer at GAW since 2018	Special software projects, ERP programming, DMS, web programming
Oliver Koroschetz at GAW since 1999	From 1999 to 2007, invaluable involvement in the IT dept. Now head of spare part management at GAW technologies.

GAW Group worldwide*

Projects from 11/2018 to 06/2019



AutomationX

Uzin, process control, Germany
 Ihle bakery, replacement of the mixing system controller, Germany
 Asfinag, traffic monitoring centre, Austria

GAW technologies

Progroup, chemicals processing, Germany
 Hamburger, coating ink processing and workstations, Germany
 Owens Corning, Binder Room, USA

ECON

Farrel Corporation, EUP 6000, USA
 Daikin, ECC 400+ ESD 245, Japan
 SKYi Innovations LLP, EUP 400+ ESK 240, India

UNICOR

Fratco, UC1800, USA
 Pipelife, UC210, Sweden
 Gulf Manufacturers, NW UC800, Egypt

OSMO

Progroup, water treatment plant, Germany
 Kali + Salz, ultrafiltration system, Germany
 Solenis, nanofiltration system, Mexico

LÖMI

Horizon 2020, multicycle, EU

M-TECH SYSTEMS

Automotive Lighting, fully automatic headlight assembly system, Czech Republic
 Christie Digital, cinema projector production system, USA
 Samsung SDI Battery Systems, bonding system for car battery production, Austria

THOMAS & FERSTL

EVG – wire welding system, Uzbekistan -20 lorries
 PIA Automation – gear line, USA – air and sea freight 320m³, 110 tons
 Sandvik – mining machine, South Africa – RoRo 118 tons

* The orders mentioned are only a selection. Due to binding confidentiality agreements, we can only show a fraction of orders received. (Version 01/06/2019)

