



"I like the motivation and enthusiasm of the ENSINGER employees"

Dr. Roland Reber is the new Managing Director at ENSINGER



Dr. Roland Reber

Since the 3rd of June, there are "two captains of the ship"; Klaus Ensinger

and Dr. Roland Reber now manage the business of ENSINGER GmbH jointly. Reber is in charge of operations and strategic direction of the Semi-finished Products Group. In addition, he is responsible for the ENSINGER Group's steering concept, which is based on uniform strategic and financial aspects. These include, for example, strategic planning processes, or international control. Reber, 33, was born in Basle, Switzerland. He studied material technology at the ETH Zürich and the EPF Lausanne, and wrote his doctorate thesis on the topic of "Woven Fabric Reinforced Compound Materials in Carbon Fibre/PEEK and Glass Fibre/PET". As a business consultant,

Reber contributes business experience. He worked for the Boston Consulting Group in Zürich for three years, and it is in this capacity that he knows ENSINGER GmbH, where he was active on two projects. "The duties of a strategic business consultant are many and varied," the new Managing Director explains. Important aspects are, for example, business analyses and project management, but also the recruitment of new employees, or transfer of knowledge within the company. Asked why he decided on ENSINGER, he cited the high motivation and the enthusiasm of the ENSINGER employees, the attractive size, the growth of the company, and not least

the subject of technical plastics. "I am convinced that, in all companies, one of the most important prerequisites for success is the quality and motivation of the employees," says Reber. That is why it is so important to have an environment in which all the employees can make a significant contribution, and where it is possible to talk openly about any subject. And his leisure activities? Cycling, squash, sailing and cooking are among his favourites. "I am looking forward very much to working together with the ENSINGER employees, and to my new duties," the new Managing Director summed up. And we wish him the best of luck in doing so!

ENSINGER expands Asians activities

Representative agency opened in Shanghai

ENSINGER GmbH now has a presence in China. The representative agency in Shanghai opened on May 15. With branch offices in Japan and Singapore, China is now ENSINGER's third pillar in the Asia region. "We have opened a representative agency in Shanghai because there is a great potential for engineering plastics in China", says Martin Baras, Marketing and Sales Manager at ENSINGER GmbH. The demand for engineering plastics for high-tech products in China is growing con-

tinuously. More and more semi-finished and finished parts are needed, he continues. And although the Chinese plastics processors have caught up dramatically, their technologies still lag far behind those of the western industrial nations. According to the Marketing and Sales Manager, many of the international companies that are investing in China also rely on high-quality plastics. More than 1500 German companies are present in China, either with representative agencies or as capital

investors. And all the data indicates that China is still on the "sunny side of the economy". China's imports and exports are growing steadily, with a total of US\$ 509 billion last year. The gross domestic product averaged 8.3 percent over the last five years.

The representative agency in Shanghai is intended to market ENSINGER'S products and services in China, establish business relations, and build up a sales network. Manager of the representative agency is Dong Ruxun. Ruxun studied Business Administration for two years at the Steinbeis College in Berlin and Stuttgart. Ruxun did several periods of practical work at ENSINGER, where he got to know all departments – from production to administration. Ruxun will also represent ENSINGER with a stand at China's biggest international plastics fair – Chinaplas 2002, which takes place from the 25th to the 29th of June in Shanghai. The exhibition area of 36,000 square metres will display

products and services from roughly 500 exhibitors from more than 20 countries. Not only China, but also the USA, Canada, Germany, Italy, the UK, Austria and Korea have their own pavilions.



The Nanzheng building in Shanghai. Location of ENSINGER's representative office

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ENSINGER supports school project in Nigeria

Father Mmagu visits Nufringen

"Robbing children of their childhood means systematically destroying a whole society." These are the words of Dr. Ndubueze Fabian Mmagu, M.A. The Roman Catholic priest from Nigeria, whose parish is Großpetersdorf in Austria, is the initiator of a school project in Nigeria. The aim is to improve the prospects of children and young people through education. Because, in the most populous country in Africa, the illiteracy rate is alarmingly high – almost 28 percent of men and more than 44 percent of women can neither read nor write. One of the reasons for this is without doubt the fact that many children in Nigeria are unable to start school, or are forced to drop out of school, because of financial need. Additionally, many young people leave school without taking leaving exams, in order to make quick money. Their chances of receiving further education are then remote. The erection of the school in the village of Nimo is financed for the most part by donations, cultural benefit events, and support from the Church and the State Government of the Austrian province of Burgenland. ENSINGER,

too, supports the school project in Nigeria financially. At the beginning of April, the Priest visited Martha and Wilfried Ensinger in Nufringen to bring them up to date on his project. Mmagu said that the most important things for him are above all the long-term care of the school project, and international cooperation with other schools and teachers. "We want it to be a school with practical perspectives for the future," says the priest. For a better childhood and a better life.



Dr. Ndubueze Fabian Mmagu M.A. visited Martha and Wilfried Ensinger in Nufringen

Little Lateral Thinker comic strip

Symbol of ENSINGER's philosophy

How do you get a central message across concisely, clearly and humorously? In a comic strip, of course! That's why every issue of impulse from now on will have a comic strip featuring the *Little Lateral Thinker*. The figure of the *Little Lateral Thinker* is a symbol of the ENSINGER philosophy of ASK. THINK. SUCCEED., and stands for the capability of ENSINGER employees to think "unconventionally". Because technically perfect solutions require not only optimal materials, suitable production processes and sector knowledge – a good portion of creativity is

needed, too. There is no other way to achieve innovative results, which in turn is the only way to attain the optimum for the customer. And precisely that is the theme of the comic strips. The brief scenarios have to do with the *Little Lateral Thinker* (alias ENSINGER) succeeding again and again in arriving at innovative solutions through creative engineering competence. Creator of the *Little Lateral Thinker* is the well-known artist Otmar Alt, who made the sculpture out of 42 different ENSINGER plastic parts. You'll find the first comic strip on Page 6, by the way!



Editorial



Dear Reader,

It is interesting to observe to what extent whole sectors of industry depend on the achievements of individual personalities, pioneers in the truest sense of the word. Our sector is no different from others in this respect. In the area of semi-finished products, the real breakthrough was made in the 'sixties by a sales manager, Charles Trouvary. A charismatic, energetic, optimistic character, Charles Trouvary had little experience in the technical plastics sector. When he took over the marketing of a competitor of ours, the then ERTA (Belgium), for France, he was excited at the task of making something out of a product family that was scarcely known on the French market. The obvious thing to do was to use the

existing sales channels, which purchased their products from domestic competitors. But instead, he visited dealers and millers all over France to gain an understanding of how the products could reach the end users, and how they could replace existing materials or be compounded with them. He also investigated the expectations of the end users and the retailers, who visited the engineering offices, and what measures could be employed to serve and grow the scattered, splintered market. He was soon convinced that the traditional marketing channels for technical semi-finished products would not be adequate for further growth. They were unable to handle the low-volume delivery of the products and the consultation that must necessarily accompany sales, in a cost-effective manner. So Charles Trouvary convinced his colleagues at headquarters to rely on new partners, and took the trouble

to convince the regionally active technical trade to add technical semi-finished products to their range of products. They were to take care of the low-level, regional distribution of the product volume, and also to offer technical advice through specially hired and trained sales-people. As a newcomer to the sector, he took a considerable risk against his established competitors. But he had done his maths, convinced people, and won. In only a few years, he had put his company in a position to dominate the market, and was able to increase the sales volume year after year. His approach proved exemplary, and is taken by many suppliers today. Business studies experts would speak of a new "business model." We at ENSINGER simply pay homage to a pioneer who, with his courage, energy and imagination played a part in bringing growth and success to an entire sector.

I would like to extend a hearty welcome to my new partner in management, Dr. Roland Reber. You can read more about his professional background and his objectives at ENSINGER in this issue of impulse (Page 1 and Page 5). Dr. Reber knows ENSINGER from two projects as part of his work as a consultant. Many of our employees at that time got to know him as an active, creative personality. We are very pleased that he has decided to join our company, and wish him all the best on his way with us. Together, we have made several resolutions aimed at making ENSINGER even more powerful and attractive for our customers and employees.

With best regards,
 Yours

Klaus Ensinger

ENSINGER introduces new 3D-CAD/CAM-Software

Optimised process chain with CATIA V5

ENSINGER is introducing a new 3D-CAD/CAM software package. The successor to the Matra EUCLID3 system is the high end system CATIA V5. "With the new system, we can work even faster and more efficiently than before. Because of the optimised, end-to-end CAD/CAM process chain and the referencing of the process parts to a common model, future project run times can be reduced significantly. This benefit is felt most directly in the case of simultaneous engineering. Any changes that may be necessary to the product, and thus to the tools, can be implemented more quickly and more simply than before," says the

manager of the CATIA project, Bernd Widmann. Another reason that he gives for the change of system is that the new CAD, compared to some other systems, is very well positioned for the future, with regard to market penetration, system innovation and further development. An important point is data exchange. More and more, customers are sending CAD data instead of drawings as early as the enquiry phase. The only way to ensure that all customer data can be read in and processed – a requirement that ENSINGER will continue to make in future – is with a modern CAD system that is continually under further development.

The CATIA V5 system will be used in the entire ENSINGER process chain. This ranges from product development through design of products and tools and programming of machine tools to quality assurance. When the time came to choose a suitable 3D-CAD system for the company, the project team carried out benchmarks on five CAD systems. Important criteria were customer requirements, designtechnology requirements, protection of investment and the cost-benefit ratio. When the choice had been made for CATIA V5, ENSINGER and its system partner TransCAT GmbH & Co. KG together worked out the introduction project **REBECA** (**R**eorganisation of **E**ngineering **B**ringing **E**NSINGER to **C**ATIA), specifically tailored to the company's needs with regard to type and scope of introduction, training and program modules.

CATIA is being introduced in the injection moulding division and in the technical development service centre. The REBECA project, which is being run in two phases, should be completed by the end of the year. In the first phase, a selected group of key users prepared for system introduction at ENSINGER. This pilot group consists of three employees each from the injection moulding division and the technical development service centre. In the second phase of the project, the system will be introduced for all future CATIA users. Most of the design engineers already work with CATIA – the first tools to be designed using the new CAD system have already been built, and are running successfully in production at ENSINGER.



The Catia pilot group (left to right): Bernd Widmann, Konrad Wiederer, Peter Thaler, Torsten Sodemann, Werner Stoll, Klaus Marquardt, Alexander Rissel

VESPEL® CR: the robust high-performance plastic with special engineering characteristics

DuPont have extended the VESPEL® product line

The possible applications of VESPEL® CR-6100 are extremely varied. This high-performance plastic is suitable for all sectors in which products are subjected to a rugged, corrosive environment, as found for example in oil refineries, in the paper and chemical industries, with manufacturers of pumps, valves and seals, or even in material handling technology. The signal advantage of VESPEL® CR-6100 is its wide resistance to chemicals at pH values from 0.2 to 14.

The material consists of Teflon® PFA with carbon fibres 6.35mm long compounded into it. The special feature of VESPEL® CR-6100 is that the carbon fibres are orientated in the X-Y plane – the plastic is therefore very anisotropic. This gives it high stability under tension in this plane. When heavy pressure is exerted in the Z plane, the plastic proves highly creep-resistant. In addition, it is impact resistant, tough, abrasion resistant with excellent sliding qualities, water repellent and resistant to superheated steam.

A further advantage of VESPEL® CR-6100 is the capability of its matrix to assimilate small foreign particles without diminishing its consistency. This makes valve seatings, washers, pumps, compressors, bearings, bushes, seals or axial bearing washers the typical areas of application for this high-performance plastic. VESPEL® CR-6100 is also a good solution for applications in which TECAPEEK



Ball valve seat and thrust washer for gears made of VESPEL® CR

(PEEK) or TECATRON (PPS) can be used because of the high temperatures or the chemical surroundings. The high-performance plastic can even replace PTFE – for example, when the stability or stiffness of PTFE is not adequate. VESPEL® CR-6200 can be a high-performance plastic of choice for whoever needs a material with more isotropic characteristics for their application. VESPEL® CR-6200 is not as stable or mechanically strong in the X-Y direction, but has the same wide resistance to chemicals as VESPEL® CR-6100.

ENSINGER football team in England

Friendly game against VICTREX plc.

"Just great!" was the unanimous verdict of the ENSINGER footballers on their recent visit to England. The reason for this long journey (20 hours in the bus) was an invitation from the VICTREX company. Their works football team had visited ENSINGER in Nufringen two years previously, so this was the English players' return invitation. At the event, the "ENSINGER Team" were able to present their new tracksuits, sponsored by Mr. Baras and his Marketing Services department. Of course, the VICTREX company had more to offer the ENSINGER players than just football. After the official welcome on Friday evening, the first move on the Saturday morning was to Lancashire, where



Full power from both sides. VICTREX beat ENSINGER 4:1



Paul Syms (Commercial Director of VITREX plc.) and Klaus Ensinger

the VICTREX plc. headquarters are located. After a tour of the plant came the big match. And this, of course, was not played on just any old sports field; as befitted "great" players, it was held in the Reebok Stadium. This is the venue for the home games of Bolton Wanderers (English Premier League). Although there were two employees of ENSINGER Ltd. helping out in the Nufringen team, VICTREX plc. still had a slight home advantage, and the result was a 4-1 defeat for the ENSINGER Team. Afterwards, the game was analysed over a cup of tea and a "man of the match" elected from each team,

before adjourning to a nearby bowling centre. Klaus Ensinger took this opportunity to thank the VICTREX company for the very good co-operation on the invitation. In the evening, a visit to a French Bistro followed, where there was more jollification after the meal. Next day

the bus departed in the direction of Manchester, where there was a tour of the legendary Old Trafford stadium (home to Manchester United). And then on in the direction of home. Again, many thanks to the VICTREX company for the invitation, and for an unforgettable weekend.



The ENSINGER football team in their new tracksuits

Competition Solution

How good is your geography?

In our last issue, we were looking for cosmopolitan customers and employees with a good knowledge of geography. As always, the participation was overwhelming, although the competition was particularly

difficult this time. The draw went in favour of Andreas Schmid (BA Student, Mechanical Engineering), who can look forward to a meal voucher to the value of € 60,00 for the Hasen Hotel in Herrenberg.

For all of you who are interested in the solution, here are the answers:

- What is the capital city of Iceland? – Reykjavik
- What country borders on Gabon, Zaire and Cameroon? – Congo
- On which island does the capital city of Indonesia lie? – Java
- What is the island to the south of India called? – Sri Lanka
- What is the name of the world-famous rock in the Australian desert? – Ayers Rock
- What lake separates Bolivia from Peru? – Lake Titicaca
- Of what country is Asunción the capital city? – Paraguay
- What river in China is also called the "Yellow River"? – Huang Ho
- What is the island to the south of Melbourne called? – Tasmania
- To what archipelago do the islands of Ibiza and Formentera belong? – The Balearics



Andreas Schmid and Julia Bieber at the presentation of the prize: a restaurant voucher to the value of € 60,00

Works Council Elections 2002

Elections in Cham also

In mid May, a General Works Council was elected for the first time in the history of ENSINGER GmbH. This year, our colleagues in Cham participated, too. 19 motivated employees stood for election (8 employees in Cham, 11 employees in Nufringen). The works Council consists of the following 11 persons: Norbert Reim (185 votes, CNC Turner, Cham), Franz Schönberger (184, Commercial Clerk, Cham), Michael Zwickl (183, CNC Miller, Cham), Ludwig Zwickelbauer (182, Miller, Cham), Jochen Skarke (179, IT, Nufringen), Ilona Brodt (169 full-time Works Councillor, Nufringen), Angelika Stumpf (166, Commercial Clerk, Cham), Kirsten Löbig (163, Milling Mechanic, Cham), Markus Menacher (163, Tool Cleaning, Cham), Stefan Raab (161, Metal-worker, Cham), Alexander Gall (146, Electrician, Nufringen). Ms. Ilona Brodt was confirmed in her office as chairperson of the Works Council. Mr. Franz Schönberger was elected Vice-Chairperson.



top: members of the works council from Cham (left to right): Markus Menacher, Stefan Raab, Angelika Stumpf, Norbert Reim, Kirsten Löbig, Michael Gründl, Ludwig Zwickelbauer, Franz Schönberger



right: members of the works council from Nufringen (left to right): Alexander Gall, Ilona Brodt, Jochen Skarke

Anniversaries

Hearty congratulations to all our employees who had company anniversaries in the second quarter of 2002.
 Looking back on 10 years with the company were: Markus Menacher, Julius Tremmel, Herbert Amann, Herbert Rauscher and Hans-Martin König.



Anniversary celebrations in Nufringen: Mr. Wilfried Ensinger (left) and Ms. Ilona Brodt join the responsible managers, Mr. Armin Pörner (right) and Mr. Martin Lanig (5th from left) in congratulating the employees on their anniversaries: Thomas Walz (3rd from right), Helmut Marquart (4th from right), Ralf Butterer (2nd from left), Klaus Schäfer (3rd from left) and Bert Meiner (4th from left)



Anniversaries in Cham: Mr. Andreas Alsfasser (centre) congratulates Mr. Julius Tremmel (right) and Mr. Herbert Amann (left) on their anniversaries

A hearty welcome

from ENSINGER to the new employees who have joined our team since 1st March 2002 (status: 31st May 2002)

Tanja Altmann	Reception Clerk, Building Products Division
Bernhard Königsberger	Plastics Moulder, Building Products Division
Thomas Serve	Machine Operator, Building Products Division
Max Weingärtner	CNC Turner, Machining Operations Division
Andreas Wagner	Production Worker, Semi-finished Products Division
Thomas Redl	Tool Setter, Semi-finished Products Division
Danijel Gorse	Machine Driver, Service Centre Raw Materials

We wish you all a good start at ENSINGER!

What does he do...?

Krystian Gruszka

Today, we would like to introduce to you another employee from Cham – Building Products Area. He is Mr. Krystian Gruszka. His name gives a clue to his origins; Mr. Gruszka came to live with his grandparents in Cham from Wodzislav near Katowic, Poland, in January 1989. He took a language course for a year, completing it on the 16th February 1990, and started at ENSINGER on the 19th February 1990. A qualified goldsmith, he works at ENSINGER as a machine operator on a variety of saws, which he very much enjoys. In addition to that, he has stood in at extruding. For about a year now, he has also been responsible for packaging. One of his hobbies is travelling. He has got to know Egypt, Morocco and Mexico, for example, in a personal way – as a back-packer. He found Egypt the most fascinating. The culture and landscape of this country made a special impression on him. In Egypt, he even met people from Cham. Not only did this lead to a friendship – the “Chamers” introduced him to his second hobby, bicycle touring. He started this about



five years ago, and since then has cycled on average around 4000 km a year. When he has a free shift, he often sets off in the morning, packs a sandwich lunch, and cycles through the Upper Palatine and Bavarian Forests. He has even covered longer distances, such as the valley of the Altmühl or Vienna, by bike. His next tour will be a circuit of Lake Constance. Krystian Gruszka's motto is “A positive attitude – I live my life as if every day were a holiday. And even when things don't work out, even a rainy day on holiday has its pleasant side.”

The same procedure as every year...

ENSINGER company fair for schools



ENSINGER trainees (left to right): Ursula Wochele, Dirk Harter, Sebastian Schill, Dirk Strauss, Marcel Rau, Nicole Ebner, Nico Rösler, Julian Schlarb

On 23rd April, ENSINGER GmbH held its fourth annual company fair. It gave about 250 pupils from the

surrounding area an opportunity to gather information about the many-faceted training programme at

ENSINGER GmbH. The event was organised and carried out for the most part by the trainees themselves. First of all, the ENSINGER GmbH training video was presented, giving the pupils a broad view of the various jobs for which training is offered. The trainees then presented their specific job training (Industrial Clerk, Process Mechanic, Toolmaker, BA Business Studies, BA Business Engineering and BA Mechanical Engineering) in more detail. Trainees and instructors were pleased to answer any questions that arose in detail. And finally, there was a guided tour of the company.

Daniela Zipperer (Student on Practical)
Stefanie Mühlbauer (Trainee, Cham)
Ursula Wochele (Trainee, Nufringen)

Instructors and teachers at ENSINGER GmbH

Information about training at the company

The Havant conference room was almost bursting at the seams when instructors and teachers belonging to the Business Workgroup met at ENSINGER GmbH. Mirjam Hörting (Personnel Clerk) introduced the company. There was then a tour of the works. Back in the Havant, Karl-Josef Rebmann (Manager of Personnel and Organisational Development) presented our training framework plan, which met with great interest on the part of the audience. Next, Ursula Wochele (second-year trainee) explained the department and training interview form created by the commercial trainees. This provoked questions like, “Does it not cause trouble

when the trainees assess the department?” This led to a lively discussion, with exchange of information among the instructors. The following day, teachers from various schools arrived at ENSINGER. They were also interested in the ENSINGER company and in training. The company presentation and a guided tour gave the visitors an opportunity to get to know ENSINGER GmbH better. In addition, the trainees presented their job descriptions and were pleased to answer questions about them. The teachers were particularly interested in the qualifications that are required of applicants.

Ursula Wochele (2nd year Trainee)

The Impulse Interview

5 Questions to Dr. Roland Reber



At the start of June, Dr. Roland Reber joined the company management of ENSINGER GmbH. What are his duties, what goals has he set for himself, and how does he see the development of the plastics market – these are some of the answers he gave in the impulse Interview.

In what areas will your responsibility lie with ENSINGER GmbH in the future?

Dr. Reber: The emphasis of my work will be in two main areas. For ENSINGER GmbH, I will take the operational and strategic responsibility for the Semi-finished Products Division, and will also interface with ENSINGER's European subsidiaries. On the global level, I am responsible for the so-called „Group Steering Framework“, the first corporate function of the ENSINGER Group. The main objective of this function is to work out basics for decision-making in steering the ENSINGER Group. The strategic planning process and international control, for example, are part of the „Group Steering Framework“, and are thus part of my duties.

What objectives have you set for your new position?

Dr. Reber: The ENSINGER company can look back on a history of very successful growth. The size and global presence that the ENSINGER Group has meanwhile achieved mean both opportunities and risks for the future. For me, recognising these early on, and creating the situation in which to exploit the opportunities and limit the risks, are part of the most elementary goals of company management. I see a clear strategy, the assessment of fields of business on the basis of modern business concepts, and deliberate investment in areas with potential for the future as a part of this. In the course of my projects with the Boston Consulting Group, I got to know extremely well-motivated employees at ENSINGER, which I see as one of the main reasons for the past successes. Another major objective of mine is to make my contribution to preserving this positive mood, and to continue to be able to count on this world-wide „ENSINGER spirit“.

What is your perception of developments in the global market for high-performance plastics?

Dr. Reber: The area of high-performance plastics is still growing more rapidly than industry as a

whole, and will continue to do so, in my opinion. The proportion of plastics in many technical applications is increasing, and this will continue to be to our advantage in the future. Nevertheless, we should not be too euphoric about the future; we are not in a niche that is untouched by recessions. In short, I believe that we will have a positive market development, but one without any „gold-rush euphoria“, and with intensive commitment on the part of our competitors to participate to an above average degree in this development.

What challenges will the ENSINGER Group face in further consolidation of its competitive advantage?

Dr. Reber: In my opinion, the greatest challenge lies in the capability to utilise global synergies efficiently, but without dissipating local expertise. A close relationship with the customer has always in the past been one of ENSINGER's greatest competitive advantages, and should remain so in the future. In spite of the size the ENSINGER Group has reached already, the flexibility of the ENSINGER units must remain at a high level. At the same time, we have a global network with high skill. We should rely more heavily on this in future. What I am talking about here is, for example, technical solutions and innovations, which should be exchanged to an even greater extent within the ENSINGER Group. The majority of our products are subject to global standards, so it is certainly meaningful to increase our international and interregional co-operation. A first step in this direction has already been taken with „GEN“, the „Global ENSINGER Network“.

ENSINGER Inc. in the USA recently received an award for its e-commerce web site. What chances do you see in the area of e-commerce for the European ENSINGER companies?

Dr. Reber: Our web site „www.shopforplastics.com“ in the USA is indeed remarkable for its simple, secure structure that leads directly to a purchase. The distribution partners of ENSINGER Inc. are also linked to, so they also profit from their customers' Internet business. In principle, I can see good opportunities for Internet marketing models in Europe too. A further sales channel can increase turnover, and automated processes lead in the final analysis to more cost-effective logistics. One must, however, consider the question of the strategy and the timing of a potential entry. Strategically, it must be borne in mind that we in Europe, as opposed to the USA, serve both distributors and end customers, and so must take the significantly more complex customer structure into account. Add to that the generally more sceptical attitude towards e-commerce, which is (still) present in a greater degree in Europe than in the USA. All the same, we are of course observing these factors, and first steps in the direction of a European e-commerce solution have already been taken.

Dr. Reber, thank you very much for talking to us.

The paint must go!

ENSINGER develops paint plugs for aluminium band rims

There is no doubt about it: to get the edge in the highly competitive market of the automotive supply industry, you must continually develop and improve your products. Such is the case with Michelin Kronprinz Werke GmbH in Solingen, one of the leading manufacturers of wheels and suspension systems. The requirements of the automotive industry led to a development project, the aim of which was to keep the countersunk holes for wheel nuts free of paint.

In the existing production process, the complete rims were painted (cathodic immersion painting), and the paint was baked at an ambient

temperature of 220°C. However, the paint significantly reduced the friction of the wheel nuts on the conical surfaces of the holes. ENSINGER's injection moulding division developed a product with which the conical surfaces can be kept free of paint. The result is the „paint plug“, which is produced in a two-component process. The number of process steps is thus reduced to a minimum. The component consists of two parts: a seal made of TPE (thermoplastic elastomer) and a clip made of TECAMID 66 GF35. The clip snaps into the holes for the wheel nuts, and thus sits firmly for the entire duration of the process.



Paint plugs for aluminium band rims

100 percent testing at ENSINGER

Automated quality control in the injection moulding division

Zero-defects – that's the buzzword in almost all sectors of industry. In many production processes, the final visual inspection is often the only step, and this is done manually and at a high cost in time and staffing. And a hundred percent inspection is still not guaranteed, because the results depend to a large extent on the alertness of the inspectors. Yet the zero-defect requirement is essential, especially in safety-related parts. The manufacturer must guarantee a hundred percent inspection – this is

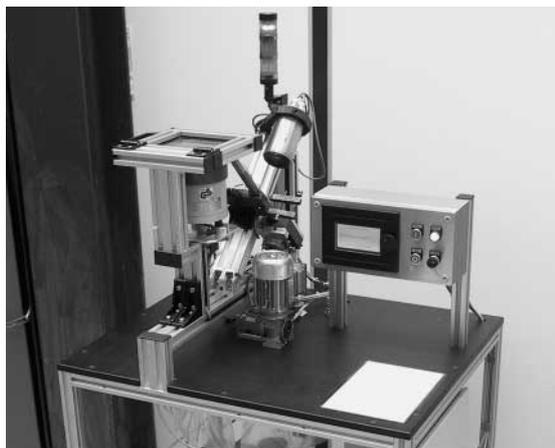
required by law. The need to ensure consistent, hundred percent quality control and to lower costs places an increasing focus on automated surface inspection using industrial image processing.

ENSINGER, too, uses industrial image processing for quality control. For the injection moulding division, ENSINGER resource development have built up an automated system of image-processing, with which it has been possible to implement customers' demands for a 100 per-

cent inspection. The system was built for a specific product: injection moulded, perforated discs with a diameter of 5mm. The diameter of each of the 16 holes is 0.5mm. Errors occur, for instance, when a pin in the die breaks off and gets stuck in the small holes. Production defects of this kind cannot be detected within the usual parameters of the injection moulding machine, such as injection time or injection volume.

The injection moulded perforated discs are fed into the system in the correct position via a separator pot. One advantage of this is that jamming of the parts is reduced, and another is that the availability of the system is increased, because no operating staff are required. Optical identification takes place through a camera system. Before the system was commissioned, the reference image of a good part was stored in the image-processing system. The camera system compares each part to be inspected with this reference image. If a part shows a defect, it is separated from the good parts by a good-bad switch. And there is a further benefit: the measurements made by the system are automatically logged and are part of the quality analysis.

Automated quality control via image-processing is an efficient, secure way of fulfilling the zero-defect requirement and guaranteeing consistent, high quality assurance in the future.



For a special product, ENSINGER are developing an automated system with an industrial image-processing system that will be used for quality control

ENSINGER UK

A brief history

ENSINGER Ltd. was established in Llantrisant, Wales, on December 15th 1987 by managing director, John Speirs. The company began with three people and has rapidly expanded to currently employ approximately 200 personnel through seven UK locations. Growth has been achieved through a continual focus on customer needs and quality products. Branches have been established in strategic regions beginning with a southern branch in Havant in 1990 and a northern branch in Manchester in 1994. The Southern branch has since relocated to Waterlooville due to the need for larger premises to incorporate additional staff and improve services to customers in the local area. Further expansion took place in 1994 with

the acquisition of Trig Engineering in Bridgwater, a specialist plastic machining company whose range of services complements the company's capabilities and standing in the market. The company has since continued to grow through new branches in Bishop's Stortford (1998), Scotland (2000) and Birmingham (2001).

Generally, manufacturing of finished components is carried out at both Llantrisant and Bridgwater. All locations, with the exception of Trig Engineering, have sales divisions for both semi-finished stock shapes and finished parts within their own region whilst building profile sales are the responsibility of the technical services department at Llantrisant. UK purchasing is located at the Waterlooville branch but all other functions, eg., accounting, logistics and Personnel are based in Llantrisant.

Managing Director, John Speirs, puts the success of ENSINGER UK down to many factors including continuous investment in the future in terms of the long-term development of people from apprentices through to the management team to-

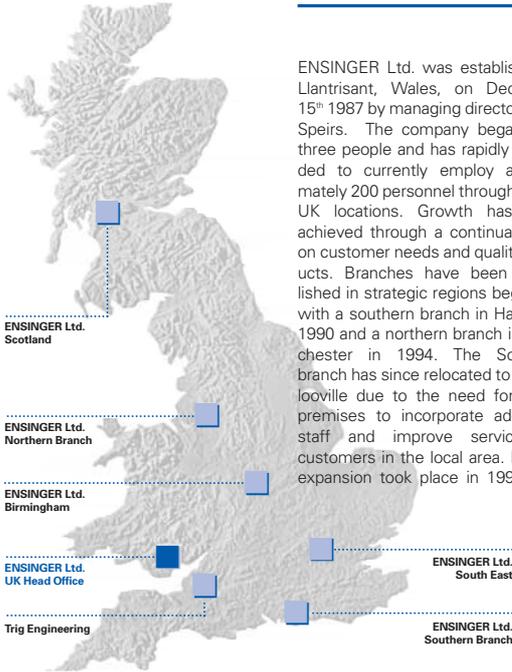
gether with investment in the most up to date production equipment.

The newer branches have recently celebrated their first year of trading and Trig Engineering has followed the other ENSINGER locations by becoming an Investor in People. This is a prestigious award for companies who have proved they are fully committed to developing people in order to achieve their aims and objectives.

Personal successes are also rewarded. Most recently, celebrations

were held to mark David Wey's 25 years service at Trig Engineering. In the early years David was employed as general manager running the machine shop. He then moved on to successfully developing and servicing Trig's top 10 accounts with the main focus on the aerospace industry. David is pictured receiving a gift which is being presented to him on behalf of the company by Steve Tipple, general manager at Trig Engineering.

Mary Morgan (ENSINGER Ltd.)



ENSINGER do BRAZIL is certified

Success through global co-operation

ENSINGER's Brazilian branch has been awarded ISO 9001:2000 certification. This makes ENSINGER Brazil the first company in this market segment in the whole of South America to be ISO 9001:2000 certified. This achievement is not only borne to the local team, but also to

the support of several other ENSINGER entities all around the world, that on a very cooperative environment, gave us hints, ideas and procedures that eased up the entire certification process. This certification is more a Global ENSINGER than a single unit one.

The Wilfried Ensinger Prize

ENSINGER inaugurates prize for exceptional scientific achievement in plastics technology

Often, excellent scientific studies in the area of plastics technology go almost unnoticed. Yet they could provide the plastics industry with important developments for the future. Nor is the choice of courses in the area of plastics at some universities and scientific institutes always as good as it might be. The result is that, in the long term, there is too little training of young qualified, scientific staff. To encourage young scientists to come to grips with questions of plastics technology, the Scientific Workgroup of University Professors of Plastics Technology (WAK) has offered three

prizes. These will be awarded for exceptional scientific achievement in the area of plastics technology. Wilfried Ensinger of ENSINGER GmbH, Justus Leyde of Oechsler AG and Erwin Brunnhofer of Technoform oHG are the respective sponsors of the three prizes.

These personalities and companies are well known for their pioneering developments in the area of plastics technology.

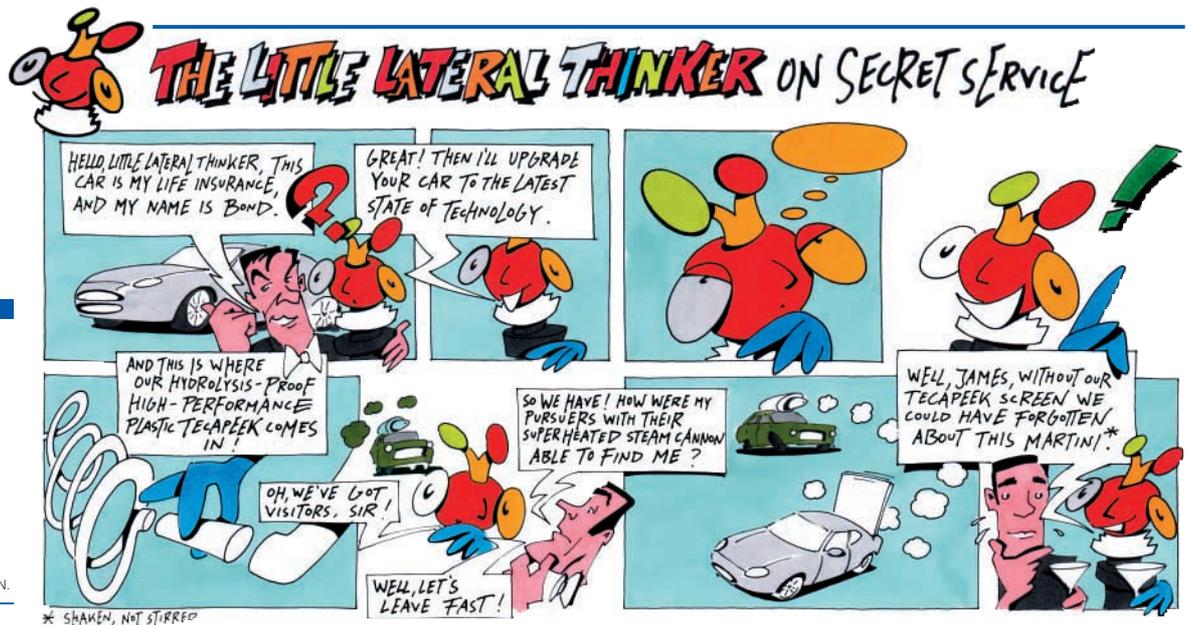
The Wilfried Ensinger Prize will be awarded for exceptional scientific studies dealing with the development and depiction of technical plastics for innovative applications.

At bachelor degree level, the work will be honoured with 4000 Euros, and at the level of a doctorate or professorial thesis, or other interesting publication, with 5000 Euros. Scientific publications can be submitted to the WAK (WAK, c/o Lehrstuhl für Kunststofftechnik, Am Weichselgarten 9, 91058 Erlangen) up to 31st July. A prerequisite for entry is that the work must have been finished in the years 2001 or 2002. The prizes will be awarded at a ceremony in October.

Lothar Meyer new manager of the Building Products division



As of April, Lothar Meyer is the new manager of the Building Products division. Up to that time, Meyer was active as commercial manager of the division. For him, the window and facade-construction sector is anything but new territory; he worked for many years as a development manager and managing director in the sector. With insulbar® and Thermix®, the ENSINGER Building Products division has two complementary product lines. Used together, they optimise the implementation of innovative solutions in the area of thermal insulation for glazing and window systems.



* SHAKEN, NOT STIRRED

Editorial

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