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June 2014

Kurtz Ersa Magazine

For Customers and Business Partners of Kurtz Ersa Corporation



Kurtz Ersa Corporation

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235 years of living technology



Rainer Kurtz, Chief Executive Officer of Erska GmbH and the Kurtz Erska Corporation (right), Thomas Mühleck, CFO (left), and Uwe Rothaug, CTO of the Kurtz Erska Corporation (in the middle).

235 YEARS
living technology

For Kurtz Erska, the outstanding feature of 2014 is the 235-year jubilee. Our company was established in Hasloch am Main in 1779 with the construction of the hammer mill.

We want to retain this industrial monument and, by adding a museum and a conference centre, expand our history centre. We thoroughly enjoyed relocating our company archive to new premises and reappraising the history of the company with the chronicle entitled "From the Iron Hammer Works in Hasloch to Kurtz Erska". We are very grateful to the author Dr. Robert Meier for his extensive research. The fact that the chronicle also deals with such delicate topics as forced labour and the Nazi period reflects our open approach to failings. Mistakes were made in the past and will also be made in the future. But, by confronting our past, we learn to minimise failings in the future and ensure that under no circumstances can they recur.

But never fear! The Kurtz Erska Team is by no means focussed solely on the past. This edition of the Kurtz Erska Magazine shows that we also take up the challenges of the present and relish the prospects of the future. We continue to consistently develop new products, adjust our corporate culture, streamline our processes and improve our internal communication and training system.

This Kurtz Erska Magazine also contains further contributions on interesting customer projects. We very much appreciate the work of the companies who have become involved. Thanks to the industrial diversity of our product portfolio, the Kurtz Erska Magazine can offer lots of ideas for new projects for our readers.

Our jubilee year 2014 has got off to a very good start and it looks as if we are set to grow significantly this year too. We would like to express our thanks to our customers, our suppliers and of course also to our staff.

Happy reading – Good luck!

Rainer Kurtz

Vision, Mission, Leadership Excellence

In the medium-term, the Kurtz Erska Group is aiming for a turnover volume of over € 250 million. With the investments already made, and our ongoing investment, we have created a solid basis. And our markets offer sufficient potential. But we can only achieve this growth by providing our customer with optimum service – which is why we have realigned our vision, mission and leadership guidelines.

The vision now simply states:

Our competitive lead in technology optimizes our customers' production process. The central focus: the benefit to the customer. Our aim is to offer our industrial customers the best possible preconditions for realising their business objectives with innovative and technologically leading products.

The new Kurtz Erska Mission

- We produce components, systems and equipment for the optimization of manufacturing processes.
- We want to understand the processes used by our customers.
- We are a strongly diversified global player.
- We aim for the top position in all markets we participate in.
- We are a family based enterprise with tradition and values.
- We include our employees in the decision making processes.
- We strive for a reasonable return on and increase of the equity capital.

In addition to the technological focus of the group, the new mission also contains a value-oriented policy guideline. In order to allow these values to be lived out in daily business, we orient ourselves towards the management guidelines.

Leadership Guidelines of the Kurtz Erska Corporation

Social Behaviour

- I actively live our values and ensure that they are applied.
- I am humane, fair and loyal.
- I am open and honest.
- I create a positive climate and promote cohesion.
- I respect my staff and business partners without distinguishing between persons.
- I am sympathetic, ready to help and open to criticism.
- I seek personal contact to my staff.

Leadership Qualities

- I am reliable and consistent.
- I communicate openly, professionally and promptly.
- I set clear, prioritized goals and monitor their consistent compliance.
- I immediately initiate corrective measures if deviation from a set goal becomes apparent.
- I make timely decisions, communicate these clearly and unambiguously and implement them targeted towards the goal.
- I actively involve my staff and those departments affected in the decision making process.
- I motivate my staff to ambitious performances and support their professional and personal advancement.
- I acknowledge the performances of my staff through praise and recognition.

Senior management as a role model

The Kurtz Erska senior management members define tasks clearly – even at the interface to other areas – and employ professional management techniques. Similarly they appreciate staff acting on their own responsibility. They know that the Kurtz Erska Values are best imparted by living them. With clear organisational procedures and a cooperative style of management, they continue to permanently promote the development of the group. And very important: We celebrate successes together!





Rainer Kurtz, Chief Executive Officer of the Kurtz Ersä Corporation, in an interview for the IHK-TV, the business television of TV touring.

In front of the manor house (from left to right): Prof. Dr. Ralf Jahn, CEO IHK Würzburg-Schweinfurt, Rainer Kurtz, Dr. Robert Meier, Dr. Andrea H. Schneider, Walter Kurtz and Bernhard Kurtz.



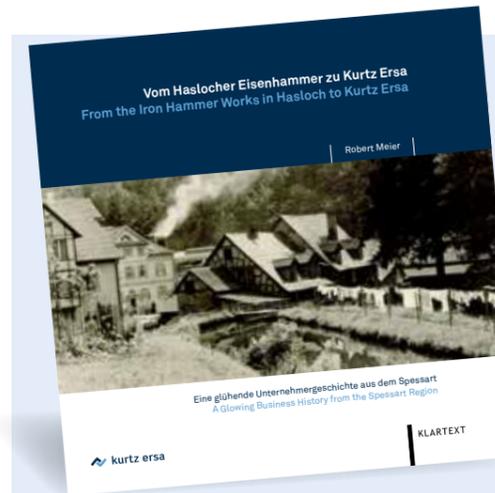
Looking back to the future – Kurtz Ersä celebrates 235 years of the Eisenhammer forge

Back then, hardly anyone would have dreamt it – what began as a simple forge on 24 March, 1779 has developed over the course of 235 years to a highly-specialised global player. Owner-managed in the sixth generation, the Kurtz Ersä Group currently employs 1,000 staff and generates a turnover of € 175 million. 235 years of Kurtz Ersä – a truly memorable jubilee for an industrial enterprise!

“The fact that we cherish our roots today is not new. The Eisenhammer forge has always been centre stage. Kurtz Ersä without the Eisenhammer – that would be unthinkable”, says CEO Rainer Kurtz on the 235-year existence of the forge. The official ceremony at the end of March was the perfect occasion for the company to take a look back at a long, turbulent history (see also “Kurtz Ersä Company Chronicle”) – but it was more than just a look. Rather the forge, the oldest production plant in the company and still active in recent years for demonstration purposes, was thoroughly inspected. With the result that the centrepiece of the group was completely restored and revitalised once again

as a corporate cultural project: “Together with our museum, the forge is now a component part of the Kurtz Ersä historic center’, with the manor house as the central element, in which meetings and cultural events will take place,” is how the qualified engineer Rainer Kurtz outlines the concept behind the history centre comprising forge, manor house and museum. For Kurtz Ersä it was a point of honour to retain the last forge in the Spessart region – the newly-opened Hammermuseum impressively imparts information on the roots of the company and offers exciting insights into current business fields. An absolute “must” for technology fans and for all those interested in industrial history! The history centre in Hasloch looks back to the place which, for many generations, was both a home and a livelihood. At the same time, from today’s perspective, it is the place which will become the centre for future generations – not least through the “Smart Foundry 200” Project: Only a stone’s throw away, at the Eisenhammer site, one of the world’s most modern hand moulding foundry will soon be commencing production. Well into the future too, Kurtz Ersä will therefore continue to form iron in Hasloch with blazing passion. ■

235 YEARS
living technology



Kurtz Ersä Company Chronicle

On the occasion of its 235-year jubilee, Kurtz Ersä presented a comprehensive company chronicle with the title “From the Iron Hammer Works in Hasloch to Kurtz Ersä – A Glowing Business History from the Spessart region”. With numerous interesting and informative articles, the chronicle spans the company’s history, in words and pictures, from the first steps to today. The 264-page work was compiled by the historian Dr. Robert Meier; editorial responsibility was born by Dr. Andrea H. Schneider, Managing Director of the business history institute, Gesellschaft für Unternehmensgeschichte. “The iron hammer works in Hasloch is unique in its own way, just like the history of the company. It is the history of a passion for glowing iron but also the history of people who have worked passionately to further develop Kurtz Ersä successfully,” writes Rainer Kurtz, CEO of Kurtz Ersä, in the foreword to the company chronicle.

“From the Iron Hammer Works in Hasloch to Kurtz Ersä – A Glowing Business History from the Spessart region, 1779–2014”, Klartext Verlag, Essen 2014, ISBN 978-3-8375-0982-3

Cultural article “Hammerwein”

Kurtz Ersä is not only an important and attractive employer in the Main-Franconia region, the company also makes a major contribution to the cultural life of the region – for example with the awarding of the “Hammerwein” title for select wines which this year went to a Silvaner from Würzburger Bürgerspital.



The Kurtz Ersa Group – attractive employer with a 235-year tradition

Internationally successful with a sense of social and regional responsibility.

Our staff are important to us!

Kurtz Ersa is an attractive employer. Due to our international orientation and the diverse product areas, we offer lots of variety. Family-friendly flexible working time models, incentive payments, employee benefits or various training and professional advancement programmes are just some examples of our concept. In-house careers are the order of the day. Our staff can let their creativity unfold in all areas and at all levels of the company hierarchy. Permanent process optimisation and flat hierarchies characterise our day-to-day business. In order to achieve our company objectives, we need the very best!

Professional training is given the highest priority at Kurtz Ersa

We offer over 20 different training professions. For years now, our apprenticeship quota has been above 10%, a top rate. The inter-company training system provides insights into the most diverse industrial technologies at a very early stage. Cooperation with universities and dual

courses of study secure the supply of young staff for tomorrow.

The health and wellbeing of our staff is close to our hearts

Health is our most precious possession. Healthy staff members are a major prerequisite for performance and therefore for the business success of our company. Health care, health and safety at the workplace, accident prevention and plant safety are a matter of course for us.

Sustainability is an inherent part of our corporate culture

As a family company with a 235-year tradition, we fulfil our social and regional responsibilities to the highest degree. This is demonstrated not only by our support for clubs and associations and cultural life, but also, and primarily, in our clear commitment to the location. The most recent investments such as the construction of a powder coating plant, new assembly halls or the reconstruction of one of the world's most modern hand moulding foundries are clear proof. ■

Examples from our programme "Attractive Employer"

- Flexible part-time offers
- Flexible working time models
- Home-office solutions
- Variable remuneration
- Joint staff parties, attendance at fairs, trainee celebrations
- Honouring of upwards of 10 years service with the company
- Monthly staff information events
- Intensive contact to schools and universities
- Info events for the parents of trainees
- Vocational courses
- Staff reviews in accordance with the personnel development concept
- Competence assessment and qualification
- Complementary supply of fruit in the wintertime
- Staff profit-sharing
- Complementary child care in the summer holidays
- Welcome gifts and greetings for new staff
- Cards and gifts for staff on personal occasions
- Complementary health workshops
- Complementary annual health check
- Vouchers in recognition of attendance at healthcare checks
- Rewarding of staff recommendations when employing new staff
- Reduced conditions on admission prices and rebates from co-operation partners



TRAINING writ really LARGE!

Already many companies are desperately looking for skilled workers. At Kurtz Ersa the topic of training and personnel development has always been one of the top priorities – with the dual training, in particular, playing a major role. In times in which the skills shortage is acute, we are making even greater efforts to win over trainees for this soundly-based course. For years now, we have been achieving a training rate of over 10% – a figure which speaks for itself.

We are currently training 82 apprentices in the commercial, technical and mercantile professions; a further 34 will be added in September 2014 – deducting the "qualifiers", this means that 106 trainees will be employed in the company. With 20 job profiles, Kurtz Ersa offers an above-average range of traineeships. Through the inter-company training system, which also foresees the transfer among the respective training companies, the future skilled personnel receive insights into the various business fields and technologies from an early stage. An apprenticeship at Kurtz Ersa is therefore extremely varied and offers very good prospects for the subsequent career, as our former trainees who complete their qualifications are almost always taken on by the company.

Apprenticeships in action

This year too, numerous activities are taking place in the training area: For example, we take part in the Vocational Information Days in Wertheim and in the open day at the Co-operative State University Baden-Württemberg in Mosbach. There, our trainees represent the various apprenticeship years in the Kurtz Ersa Group and answer all the students' questions regarding training and studies. Furthermore, we are involved in the Project Preparation Days of the Comenius Realschule in Wertheim, where trainees present the Kurtz Ersa Group to students in Year Nine and illustrate the possible training vocations in the form of presentations. ■



The following training professions are offered by the Kurtz Ersa Group:

Ersa GmbH, Kurtz GmbH

- Industrial Electronics Technician
- Industrial Mechanic

Ersa GmbH, Kurtz GmbH, MBW

- Warehouse Logistics Expert (m/f)

Kurtz Aluguss

- Foundry Mechanic Print and Gravity Die Casting

Kurtz GmbH

- Foundry Mechanic Hand Moulding Castings
- Surface Coater
- Technical Model Maker
- Metal Cutting Mechanic

MBW

- Construction Mechanic
- Machine and Plant Operator

Kurtz Holding

- Bachelor of Arts – Industry (m/f)
- Bachelor of Engineering Mechanical (m/f)
- Bachelor of Engineering Mechatronics (m/f)
- Bachelor of Engineering – Business Engineering – International Production and Logistics (m/f)
- Bachelor of Engineering Business Engineering (m/f)
- Computer Science Expert for System Integration
- Industrial Management Assistant with Additional Qualification
- Digital and Print Media Designer
- Technical Product Designer



Process efficiency – the key to success!

In many areas Kurtz Ersa leads the way technologically, and in some cases is even the world market leader. The foundation for this claim is our vision that "Our competitive lead in technology optimizes our customers' production process." In order to be able to produce products that are innovative, technologically advanced and in line with our customers' quality expectations, we must ensure that all our business processes are precisely described and complied with.

Our management system is controlled by the definition of processes, which are implemented by means of the leading SAP ERP System. In this way we can ensure that business processes are implemented in a way that is unified worldwide and corresponds to the definitions – in the Moulding Machines and Electronics Production Equipment divisions, in our foundries and in thin sheet technology; in China, America and our sites throughout Germany.

Streamlined, efficient processes

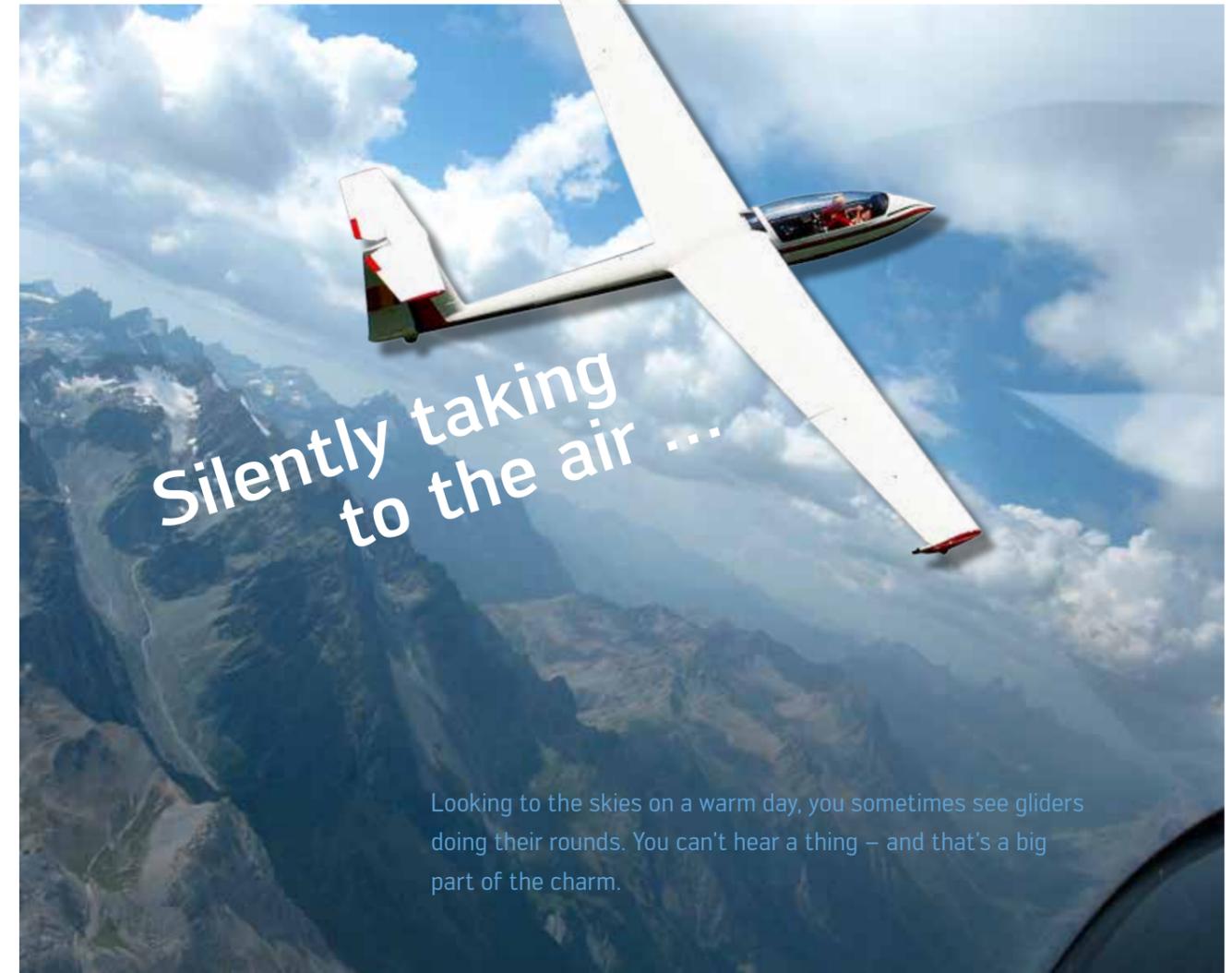
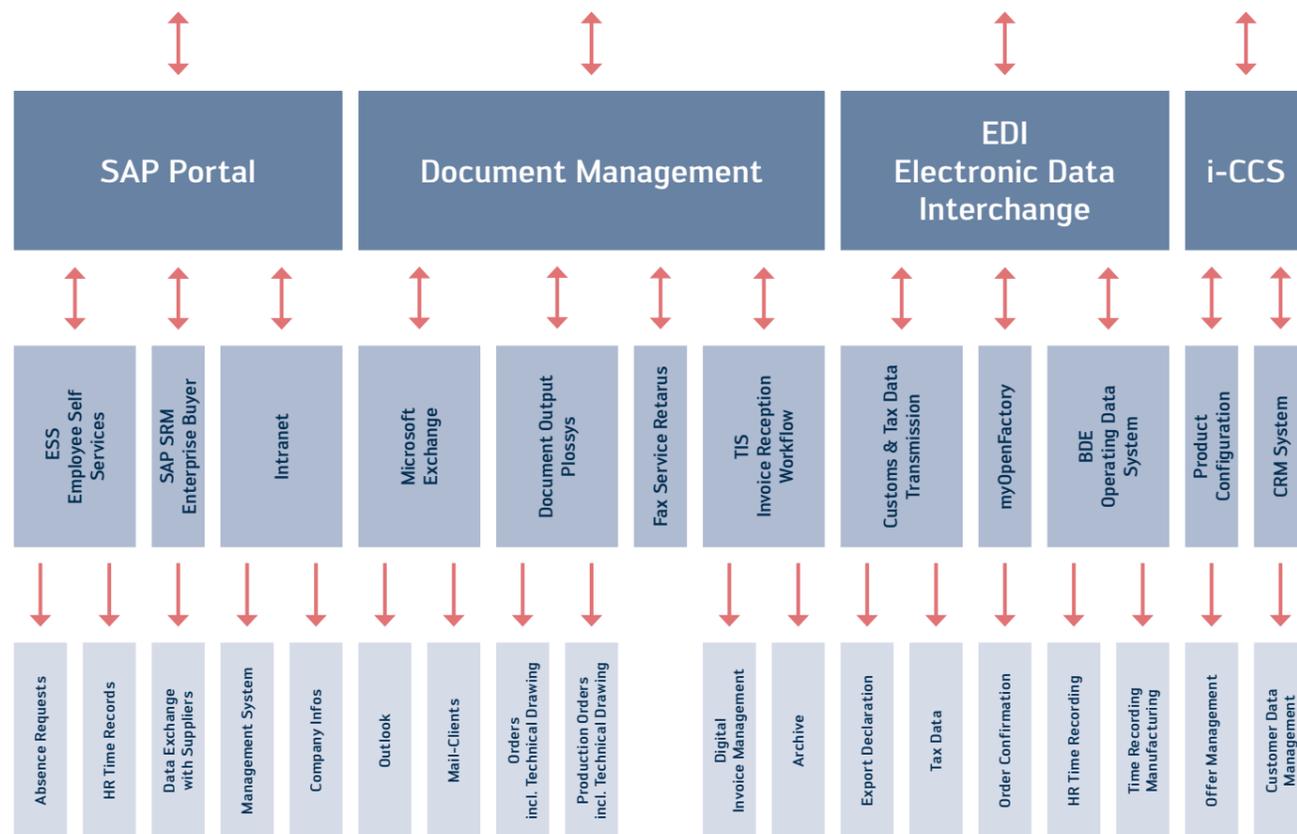
To ensure that our processes are as streamlined and efficient as possible, we rely to a great extent on electronic processes. Our i-CCS quotation management and CRM system uses an integrated product configurator. Incoming orders, including parts lists, are transferred automatically to SAP. Once captured, jobs and orders are exchanged electronically with our business partners, whether customers or suppliers. In addition, internal and external suppliers are linked via the myOpenFactory exchange platform using the Electronic Data Interchange, abbreviated to EDI. The EDI rate in the group for 120,000 items is almost 80 per cent – and we gain 1.5 minutes per item. The electronic association of drawings with the order via document info records also means greater speed. And we also process incoming paper invoices electronically: they are scanned, automatically compared with the order and over 60 per cent of them booked by the automated system without manual intervention. In connection with document management we are talking about

a total of 538,000 incoming documents, 125,000 outgoing documents, 72,000 customs documents and contracts from the Purchasing, Sales, Finance and Human Resources departments. The aim is to store incoming and outgoing documents in a paper-free system, to archive documents ready for audit in our D3 system and to have direct access to the archived documents by means of SAP transactions.

Self-service for employees

Our employees also benefit from the digital processing systems: leave applications are no longer sent with copies via the internal mail system, but entered directly into the SAP system and approved digitally. The "Employee Self Services" (ESS) enable employees and line managers to see the current status at any time. Various SAP mobile apps, for example relating to order approval, ESS or service applications, are then introduced. Stationary or mobile, with SAP Kurtz Ersa is always in control, by means of electronic processes, or the realisation of the group's vision. ■

D3 Archive  Central control software business applications
SAP ERP 6.0 Ehq 6 (400 User)



Gliding silently through the air, depending entirely on thermal lift is what makes gliding the nicest hobby in the world for me. Words can barely describe what it is like being able to explore the world from above, and always discovering new things. My flights have taken me over the Black Forest, the Thuringian Forest and the Rhön. And almost always back again. Even occasional "out landings" have their charm. You meet new people – and until my wife arrives with the trailer, there is enough time to come up with a plausible explanation for why I didn't make it.

Practice makes perfect

In addition to the "overland flights", generally in a one-seater, I am also active as a flight instructor. Teaching beginners to fly gives me enormous pleasure. After just a couple of flights, most of them are able to fly quite well. Take-offs and, more particularly,

landings take quite a bit of practice and can bring some students to the brink of despair. But sooner or later everyone gets there. And it doesn't matter whether they are 14 or 60 years of age when they take up flying. Both my flight pupils at FSC Altfeld are already flying solo at 15. Unfortunately, I then have to watch from the ground, as they do their rounds and steadily gain in height.

High up over the Alps

The absolute highlights in flying terms were flights over the French Alps. From time to time, we pack the glider onto the trailer and set off for Provence. From there, we fly over the snow-covered "four thousand footers" or the chalk cliffs of the Maritime Alps. These flights make an impression that stays long in your memory and is probably only comparable to the experiences of mountaineers. And if I've whetted your appetite, you are more than welcome to take to the air with me. ■

Horst Ostrowski

Head of maintenance and construction documentation at the Kurtz Eisengießerei, has to deal with many things concerning the Smart Foundry Project – from time to time he likes to go up in the air.



Top In Service And Qualification Of Staff

Ersa, renowned as a specialist in soldering, offers complete solutions for the manufacture of electronic products and the world-wide most encompassing range of soldering systems, stencil printers, hand soldering tools and rework systems. This is enhanced and expanded by an extensive program of continuing education, which is based on content that is always up-to-date, professional and certified. This program, designed to qualify their staff, is developed in close cooperation with some of our most important industrial partners.

Supplementing its annual program of tailor-made educational and training courses, Ersa offers to its customers technology days – an event exclusively held for employees of individual companies, consisting of a theoretical part and a separate hands-on portion. There is a definite need for this offering: Industrial corporations from the automotive, automation and IT-communication sector use this venue to educate and train their technical project managers, purchasers, development engineers, QC staff and any number of other employees. This is a sound investment, as it serves to retain and deepen the understanding of technological processes of these members of their staff. As it is, small changes in the process or parameters are very often sufficient to substantially reduce the quality of the product produced. During the hands-on portion of the session, the participants will gain, by looking at practical examples, an understanding of the interdependence of production equipment – process – product. By limiting these sessions to a single

customer, a unique group dynamic is setting in flow intense and very constructive discussions within the group. Participants at these technology days are frequently so satisfied, that shortly after the end of one session the next group of the same corporation is booking another session.

New Venues for Tools-Seminars

With the introduction of the AVLE seminars in the tools division we are exploring new means to transfer knowledge. Through the launch of a soldering license in combination with shorter, practice-oriented courses, the participant gains only the immediately relevant and required knowledge. Because of the reduced duration of these sessions, the participant is specialized and qualified in a shorter period of time. Through attending additional sessions, the basic knowledge can be expanded, selectively and user-oriented. After the completion of each course, an independent examination is taken which, if passed, allows the participant to attend the next level of courses or to sign up for special subject courses such as, for example, "rework". Each examination passed is documented in the soldering diploma, and they build one on another in their knowledge content. To retain the validity of the soldering license, retraining resp. re-certification in a 2-year cycle is required. In order to keep pace with the rapid development in the electronic industry, an absolute necessity!

Machine Soldering shifts focus to more dialog

The training programs existing for machine soldering have been modified, and the dialog with the course participants has received

increased importance. Following the motto "together and for each other", the participants will share their experiences. If some idea brought forth is rated as useful by the majority of the user group, it will be integrated into the development of the system. Training of the maintenance personnel takes place in separate courses. The practical part, given by our senior service engineers, is now supplemented by a theoretical part, in which basic process know-how is being transmitted. Creating an edge through education!

Service Card Silver and Gold increasing popularity with machine customers

Due to the continuously increasing complexity of modern production systems, it becomes more and more difficult for a manufacturer to maintain maintenance personnel in adequate numbers. To overcome this problem, Ersa has introduced the perfect solution: the Ersa Service Card Silver and the Ersa Service Card Gold. At the base of this concept hides a sophisticated service system. Depending on the type of equipment and its features, its hours of operation and complexity, Ersa service technicians take on the task, in specified intervals, of cleaning and maintaining the equipment. Wear parts are checked and inspected and, if called for, replaced as a preventive measure. Every step performed has the aim to assure 100% uptime for the customers production needs. The service is performed in agreement with the customer as to the date, and production gaps, non-working shifts or weekends will definitely be considered. You will receive this valuable service for a monthly fee and a period of 2 years. ■



Ersa Sponsors Technology AG



High-power and usable:
Ersa i-CON PICO with i-TOOL PICO.

Towards the end of 2013, Hansjürgen Bolg, Director of Sales of the Tools Division, received a call for help from the high school in Schönau. There, students signed up in the science and technology class as well as in the specially implemented Technology AG are learning how to solder by hand and how to handle electronic components.

Up until recently their eagerness to learn was greatly hampered by having to work with old tools and very frequently needing to clean the tips. Manfred Wiezel, who looks after the Technology AG of the school as a volunteer in his free time, decided to look for new stations and he turned to Ersa GmbH for assistance. Since he is working as an electronics and software developer who privately solders on a RDS-80 station, he was aware of the quality and the excellent performance of Ersa products. It did not take long to realize that the i-CON PICO would be

the ideal solution for the school, since, aside from simple through-hole components, larger projects such as ball tracks made from copper wire also needed to be soldered. After this, only one question remained: How to finance this purchase? "The fact, that there still are specialists at schools who in their free time teach soldering to students, and who campaign for the use of quality tools, is by no means a matter of course. Therefore, we simply had to help!" declares Hansjürgen Bolg, who had proceeded to make a very good offer to the school. In addition to 10 i-CON PICO stations including i-TOOLS at a very low price, the school received 5 additional stations with solder irons at no charge. The students expressed their gratitude by sending a stuffed board soldered by them. Presently, the Technology AG works on a new project: a music box with a 3-channel light organ and connectable to a smart phone – and for the first time with SMD components. With tools from Ersa! ■



Much better working now: excited pupils from the Technik AG with their new soldering stations.

VadaTech Continues Its Path Of Growth With Ersa



Headquartered in Henderson, Nevada and with a new facility in Las Vegas, VadaTech Inc. is today one of the leading designer as well as manufacturer of complete solutions for the electronics industry. Assuring their success is the highly innovative team of designers, which works, spread over a number of locations, on new products and on system performances. In cooperation with its in-house high-tech manufacturing division, the company is able to get new products ready for series production and manufacture in very short time.

"At VadaTech, the significant difference to our competitors lies therein, that we incorporate the vision of our customers from the start of the design stage right up to the final product", says Saeed Karamooz, CEO of VadaTech Inc. Customer satisfaction is at the core of VadaTech's philosophy, from design and service to delivery and subsequent support.

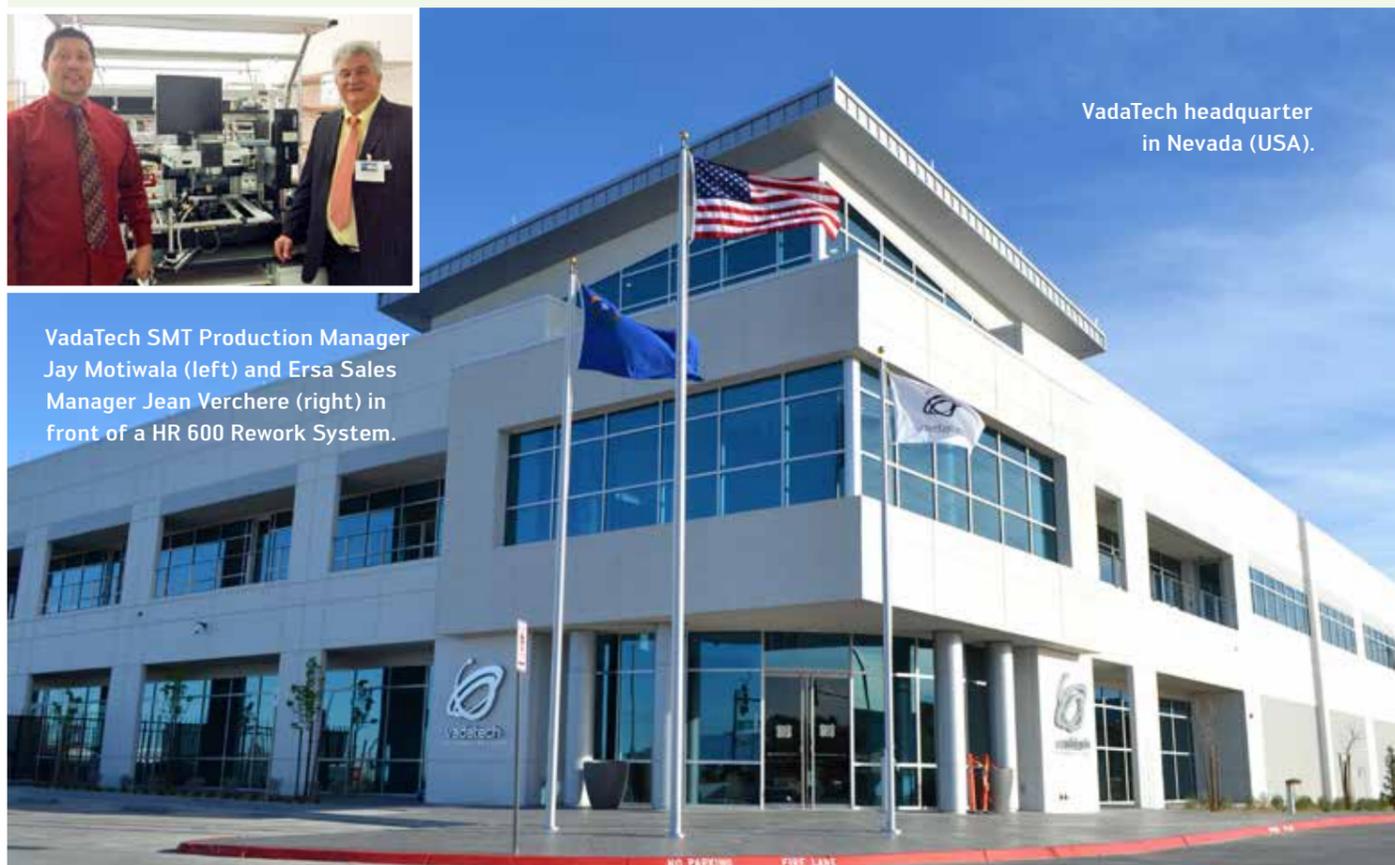
New facility in Las Vegas

And by following this philosophy, VadaTech plans on worldwide growth: In March of this

year, a new facility with 3.300 m² and an investment of more than 25 million US \$ was opened in Las Vegas. As an important element in this ambitious project of growth, VadaTech has selected Kurtz ErsA North America to be their strategic partner. Four ErsA HOTFLOW 3/20 Reflow Systems, one HR 600 Rework System and one ECOSELECT 1 Selective Soldering System were already purchased, with two more lines planned for the next step. VadaTech SMT Production Manager Jay Motiwala stressed that they collaborate with ErsA for many years already – decisive for the procurement of ErsA equipment was and is the fact that it is the most reliable equipment on the market. He continues: "VadaTech is using ErsA products since 2004, and we never had any technical problems." He also feels that ErsA's customer service is excellent and designed to provide the help and the training he needs – when he needs it. "In our opinion, ErsA offers the highest quality equipment on the market. With our newest purchase, we now have a large number of ErsA products in our facilities, and we will certainly again consider ErsA for our next investments in equipment," states Motiwala in closing. ■



VadaTech SMT Production Manager Jay Motiwala (left) and ErsA Sales Manager Jean Verchere (right) in front of a HR 600 Rework System.



VadaTech headquarter in Nevada (USA).



Ultrasilent, ultraefficient, cost-cutting – the new Fume Extraction of ErsA has arrived: EASY ARM 1 and 2!

Psssst, the best working climate with EASY ARM 1 and 2!

Ersa supports its customers during the soldering process with the new solder fume extraction units EASY ARM 1 and EASY ARM 2. Sporting a functional design and offering useful accessories, the intelligently controlled ultra-quiet filter units clean the air from harmful substances.

The intelligent controls of the new extraction units installed over soldering stations of the i-CON series or the hybrid rework system HR 600 raise the efficiency of cleaning the process air, thereby cutting cost. Not only the rework systems i-CON 1 and 2 with serial interface, but also the flagships i-CON VARIO 2 and 4 can actively control the operation of the extraction system – the filter units operate only when soldering takes place! Aside from further reducing the already low overall noise level during extraction, this feature also cuts the cost

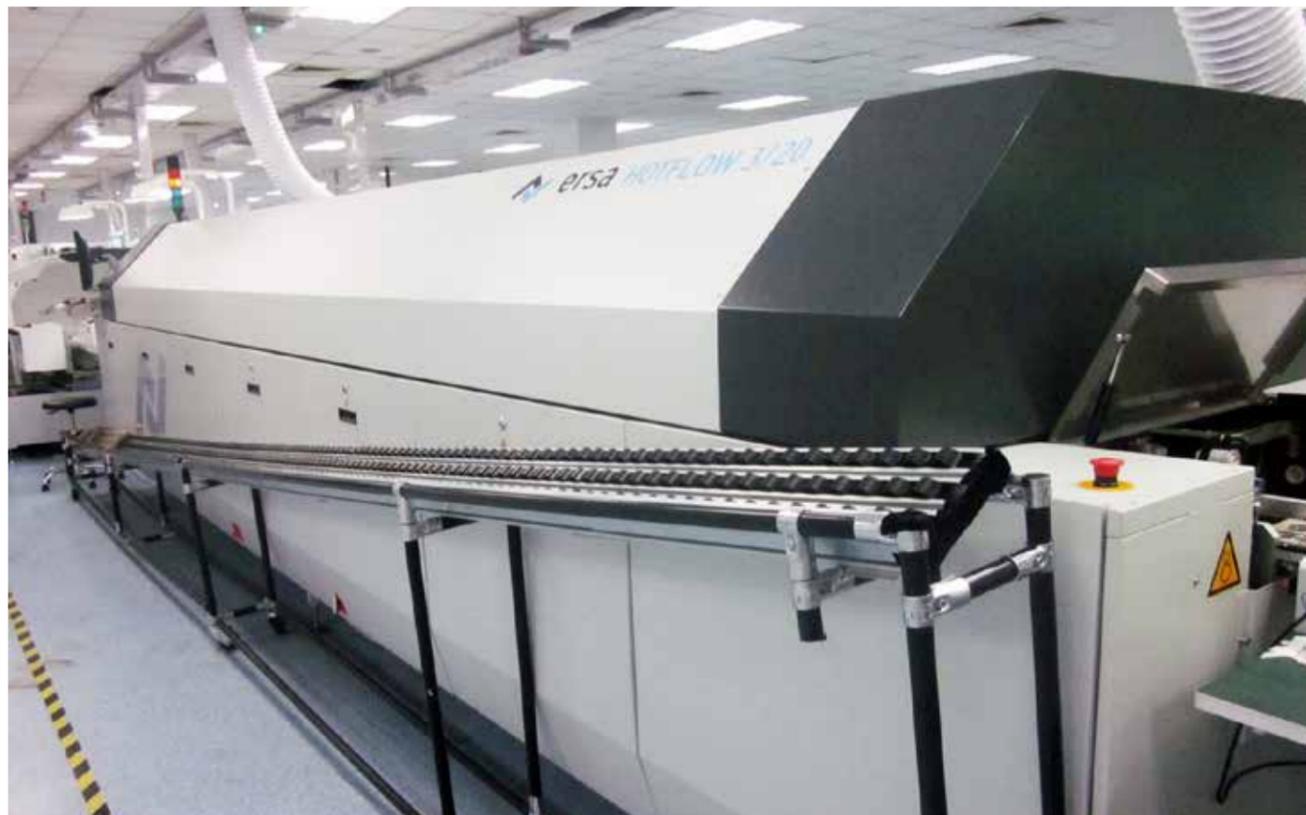
of filters and energy: As soon as the connected soldering stations switch to the stand-by mode, the filter unit will, with a small delay in time, turn off. Energy losses due to frequent ventilation of the work area, particularly in winter, are virtually eliminated through this smart technology.

Fascinating technical solutions

Whether one-channel or dual-channel extraction – EASY ARM 1 (50 W) and EASY ARM 2 (100 W) use the identical technology: an especially quiet moving blower [max. 50 dB(A)] draws the process air contaminated with particles and gases through a three-stage filter unit, and returns it, cleaned and without disturbing blow-out noises, to the ambient environment. In both units the identical pre-filters (filter class F 7) and combination filters (filter class H13 with activated carbon) remove even the smallest particles and gases from the

passing air. Each extraction connection (up to 95 m³/h) can be individually set, allowing the units to be operated at very low operating costs. The need to change a filter (the combination filter after approximately 1,500 h) is indicated by the unit, and can be done very quickly. Practical table mounts as well as a well thought out assortment of exhaust arms and nozzles optimally integrate the systems in virtually every manufacturing environment. Robust and sound insulated metal housings ensure a long service life even in a rough environment.

On account of the interface provided, the fume extraction units can at all times be integrated into automatic manufacturing system such as solder robots. Customers, who do not yet own an i-CON station, can use a suitable stand-by switch at the workplace to activate/deactivate the extraction unit. ■



One of twelve Erska HOTFLOW 3/20, in use round the clock at Compal Com in Nanjing.

Designed in Germany, made in China

In China, the Erska HOTFLOW series is often referred to as "the Mercedes amongst the reflow systems." Good for the image, but an obstacle for potential purchasers. "We would like to buy it, but our budget does not cover it" – to overcome this contradiction, Erska is following since the middle of last year a new strategy.

Uncompromising high-end quality and performance from Germany combined with the advantages of local manufacturing – starting with this premise, since June 2013 Kurtz Erska produces the HOTFLOW 3/20 in Zhuhai, Southern China. It was a well-received move. Yet there were high customer demands to be met. For this reason, we selected for the benchmark a customer who has in his production facility equipment of the competition as well as Erska HOTFLOW systems made in Germany.

Erska Systems in 24/7 Operation

With Compal Com, a Taiwanese manufacturer in Nanjing, a user who places very high demands on his production equipment was selected for this benchmark: 26 fully

automatic lines run in their production, equipped with 12 systems from the competition, 2 HOTFLOW 3/20 made in Germany, and, in the meantime, 10 further HOTFLOW 3/20 made in China. In a 24/7 operation, smart phones for Sony, Nokia, Motorola and the brand with the apple are being processed on the systems. After two years of operation, Yisem Chang, Manager SMT Process Team, takes stock: "After the installation of the first two system 'Made in Germany' there were some process issues, which could be solved very expeditiously through our close cooperation with Erska. The subsequently purchased ten systems 'Made in China' are in operation since last year, and they are, since then, in 24/7 operation without any problems or issues." Yisem Chang continues: "Erska has understood the importance of a stable and failure-free process in a mass production environment, since any system down-time is disastrous and extremely expensive."

Competent After-Sales Support from Erska

The purchase order was issued to Erska because of the system – but also because of their

competent and quick after-sales support team. This partnership has given rise to a true win-win situation! Compal Com will recommend Erska to companies checking out references, and it will purchase further systems in the near future. Encouraged by the number of satisfied customers and the positive feedback from the market, Kurtz Erska is already increasing its production facility in South China: A new production hall will be completed in Zhuhai in July of this year, increasing the production capacity by an additional 150 system per year. And: A further expansion is already under consideration.

Compal in brief

Taiwanese Contract Manufacturer, Headquarter Taipei City, established 1984 – manufactures, amongst other items, "Smart Devices" such as smart phones and tablet-PC's.



NPI Award 2014 for HOTFLOW 4/26

.... And the NPI Award in the category reflow systems goes to the HOTFLOW 4/26, the top model of the newest generation of Erska Reflow Soldering Systems. The award was presented to Kurtz North America on the occasion of the IPC APEX EXPO in Las Vegas.

On an annual basis, the US trade magazine "Circuits Assembly" presents its NPI Award to highlight leading edge products in the area of electronic manufacturing. Neutrally and independently, experienced electronics engineers evaluate proposals received following criteria such as:

- Creativity and Innovation
- Compatibility with existing technologies
- Efficiency
- Design
- Reliability
- Flexibility
- Ease of maintenance
- Performance and throughput
- User friendliness

HOTFLOW 4 – a worthy winner of the award

The current HOTFLOW 4 was developed in accordance with the concept of sustainability and conservation of resources. During the course of this development, Erska's specialists closely examined individual aspects such as the drive technology, energy transfer, heat losses and cooling, and deduced measures to increase the general efficiency. This new reflow system offers a technological edge, which Erska customers can use to optimize their manufacturing process – in quality, cost and service. One example: By using, for the worldwide first time, DC motors in a reflow system, it is possible, depending on the operating point, to cut energy consumption by more than 50%.

Intelligent Construction Details

Erska HOTFLOW 4 reflow systems can be supplied with an effective exhaust air cleaning unit and a number of different of cooling systems. As a result, power consumption of the cooling system drops from 5 kW to 2 kW. Maintenance, which can be performed quickly and without special tools, is not being called for

in predetermined intervals but is rather scheduled in dependence to the throughput. In addition, intelligent design details reduce the maintenance effort by another 30%, thus increasing the availability of the system for production. The completely new and innovative nitrogen control minimizes the consumption of the costly medium by 20%, and, through the use of efficient blower motors, the total energy saving is over 25%.

With the Grip conveyor, Erska offers

an uncomplicated PCB transport through the reflow system – without additional aids or the need for special preparation of the boards. It allows processing, one after the other, a mix of boards of between 0, 1 – 6 mm thickness without requiring any adjustment or set-up. With a process length of 7 meter, divided in 26 heated and 4 cooling zones, the HOTFLOW 4 features a high degree of energy efficiency and increased throughput – all the while maintaining the traditionally high Erska quality of the solder joints and excellent process stability. A strong combination when joined by our selective soldering systems, and surely "the next step" to a genuine success story! ■



Kurtz North America CEO Albrecht Beck with chief editor Mike Buetow at the award ceremony on March 25th in the Mandalay Bay Convention Center in Las Vegas.



HOTFLOW 4/26

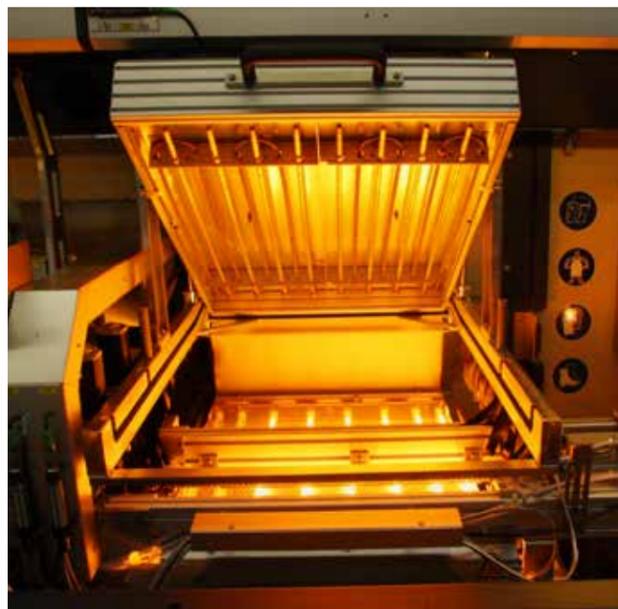




Feeding conveyer completely automatically adjustable.

Dynamic bottom and top heating – warrantor for effective and reproducable preheating.

Division Manager PCB Assembly Rinaldi Concetta (in the picture below) is very content with the high soldering quality of the VERSAFLOW.



MSC Freiburg Solders With Erska

MSC Freiburg GmbH is a development and production service provider for electronic assemblies as well as electromechanical systems. The success of the system house is based on their use of technically sophisticated equipment for safe and controllable processes in production, as is demonstrated in the Erska selective soldering system in their board assembly department.

MSC Freiburg was formed in 2001 out of GE Medical System IT as a service provider for the sectors electronics, development and production. At MSC, customers are assisted, right from the start of the product idea and up to its market introduction, by experienced application and development engineers. Today's product portfolio includes, aside from medical technology and industrial electronics, telematics for commercial vehicles and security systems.

Extending technological advantages

The competition in electronics manufacturing has gotten much keener, cost pressures as well as demands for an increase in quality while at the same time reducing lead times are

forcing a rethink. This entails for the MSC team: continuous optimization of the production sequences and increasing the technological-economic advantages. In addition, the fact that component density on printed circuit boards continuously increases while spacing decreases, adds an additional challenge especially to the soldering process. This is compounded by the increasing number of SMD components. "At the beginning, we could handle the issue with gluing the components on the underside of the board and then solder with the wave," says Holger Herbstritt, Manager of the Design Center. "For eight years now are we looking at the selective soldering process, and we had bought a small system. But the demands continuously increased, so that pretty soon it had reached its limits. Our aim now was to get a faster, more flexible selective soldering system, with more capacity to achieve a higher throughput." The result: The Erska VERSAFLOW 3 with the capability to handle boards up to 400 x 500 mm, a system, which had proven itself at its parent company. Evaluation started beginning 2013, and in September the system hit the production department in Freiburg – installed within 3 days which included training. What followed was a period of validation and a test

phase, during which the VF 3 was put through its paces. Thereafter, the MSC technicians could, without any problems, pull all the products over to the VF 3 and solder.

Soldering without Compromises

Configurable with nearly no limits, the VERSAFLOW is optimally suitable for the demands of MSC, with an adaptation to future demands any time possible through the addition of further modules. At this time, mainly boards produced in-house are passing through the system, boards that are installed in trucks, tractors, computer controls, x-ray systems or home entertainment. Division Manager PCB Assembly Rinaldi Concetta comments on the soldering system: "With the dual pot system the process time was virtually halved, so that we are substantially faster and able to increase the throughput when processing multiple-ups. An additional benefit turned out to be the fact that we have almost no need for rework, since the system delivers high quality joints." The production in the Freiburg facility appreciates the user-friendly and low-maintenance performance of the VF 3 – with it, the MSC team is well set to meet all demands presented to it, today as well as tomorrow. ■

Kurtz goes Automation

Increasing personnel costs and increasing price pressure are putting companies from the producing trade all over the world in dire straits. After all, it is a question of the costs per machined part, which – unlike expensive manual handling – can lastingly be reduced by automation. At the bottom line, automated solutions for flexible use lead to higher process security and reproducibility, reduce costs and increase output and quality!

This trend also has effects on mechanical engineering at Kurtz GmbH. Precisely in the foam machine area, customers are more frequently asking not only for automatic part processing machines, but also for additional systems taking on tasks like handling and packaging in an automated way. For this, existing machines are partly retrofitted or extended, but also new systems and lines completely installed.

More productivity, more quality

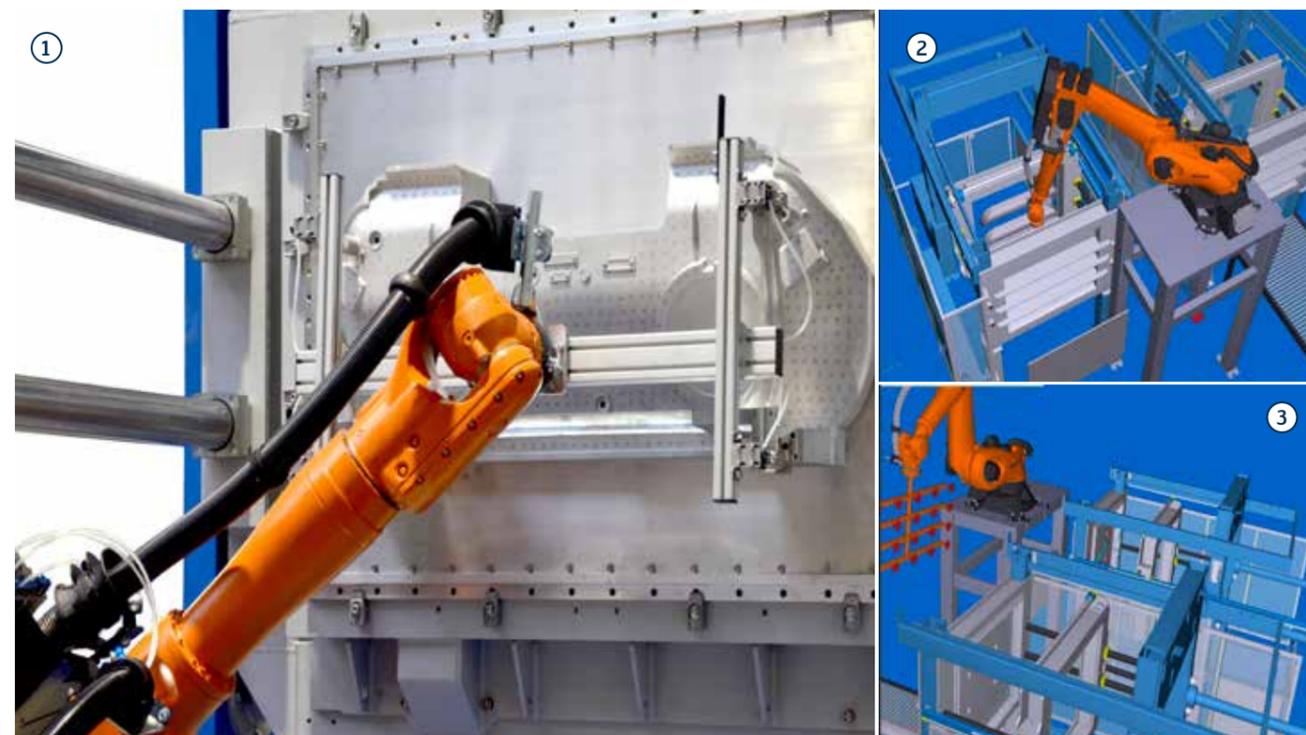
In a current project with an Asian customer from the automotive supply branch who produces products from EPP with foamed-in inserts with Kurtz automatic moulding machines, the manual insertion process of

the various metal inserts is to be automated. The automation pursues the objective of doubling productivity and also improving quality. Kurtz has developed a solution for this, in which a robot takes the inserts from a magazine by means of grippers and positions them at the correct places in the mould of the automatic machine. Thanks to a sophisticated gripper system, it is possible for all the inserts in one cycle to be inserted by the robot in only one step.

Handling in combination with quality check and sorting of parts produced by moulding machines is the task of a further Kurtz automation project which is currently in the design phase. For this, a completely automatic line, in which the moulded parts pass through the individual stations for the quality check on conveyor belts before being sorted at the end of the system, is being developed.

To support our customers as a competent partner in the complex change from manual to automated sequences, we are working at high pressure on permanently extending our range of products in the area of automatic handling, quality check, sorting and packaging. ■

Innovative solutions concerning the whole process – automated processes developed by Kurtz. Insertion of a metal part ①, Insertion of a mould part ②, robot in stand-by position ③.



Think bigger, think faster, think global – and act local!



Successful application in the automotive industry: the Kurtz low-pressure casting machine from type AL18-16FSC with oven shuttle system.

For each automobile manufacturer, reducing vehicle weight under the title of "Lightweight construction" is an important requirement. With hollow casting, a cast part with a matching construction can replace a complete component made of a number of sheet metal parts – and save weight and costs. What appeared impossible with low-pressure casting machines a short time ago with a view to size and design is now increasingly becoming a basic precondition for production.

These requirements in the direction of system size, but also the number of cooling circuits and furnace size are already standards for Kurtz GmbH. And we can see: the trend is clearly going towards larger and larger low-pressure casting machines ③ –

so it is no surprise that numerous XXL machines can be found when you look at the Kurtz order books. Demands for a larger clear width and large mounting tables for moulds with multiple occupancy, for example moulds for large cast and structured parts, have become the order of the day in the meantime. And compared with the past, these machines are no longer in the category "special machines", but have become standards.

Larger machine, larger furnace

To make sensible use of such large machines, the dimension of the furnaces also has to grow. Not long ago, low-pressure furnaces with a capacity of 1,500 kg were more the exception, but furnaces between 2,000 and 3,300 kg have become standards in the meantime. Large furnaces have asserted themselves in the low-pressure process, as

a number of feed tubes at large distances can be used in the area of the chassis and structured parts – with the benefit that a casting box can be avoided. So that systems with these dimensions also work process-securely, a sound machine construction with numerous important details is absolutely urgently necessary. The Kurtz Type AL18-16FSC low-pressure casting machine fulfils precisely these prerequisites and possesses the following technical details:

- clear width between the mounting tables 2,600 mm
- clear width between the machine pillars 1,800 x 1,600 mm
- stroke of the closing unit 1,800 mm
- furnace size 3,100 kg
- use of 8 feed tubes

Faster cast, higher quality

The fact is: a large machine alone is not purposeful, it must also be possible to cast the parts quickly for economic reasons. They become quicker with cooling units which are in a position to curtail the casting cycle and at the same time to increase the quality. Whereas most casting machines had up to 24 cooling circuits a few years ago, large machines nowadays start from 32 cooling circuits ① – and often have up to 96 circuits. In cooling, the trend is clearly going towards water, some casting machines even being built exclusively with water circuits. But quicker not only relates to the production, but

also to the availability of the casting machines with short fitting times to match. If need be, the furnaces are completely changed – which has to be quick, even with more than three tons of content. With the FSC ② furnace shuttle system from Kurtz, this is possible without any problems.

Cast part production directly on site

Cast parts are becoming larger and larger, but nevertheless lighter – for which the use of sand cores for hollow casting is responsible. Economically, there is no point in transporting these giant parts across long distances – to keep the logistic expenditure as low as

possible, the suppliers need their foundries where the parts are also processed. This is why foundries use the same production system for one and the same product in a number of countries, in order to be able to serve their customers locally. All in all, it is a question of thinking bigger and quicker for the subject of casting machines and of including local production in these ideas. With standardisation of their systems, manufacturers remain flexible regardless of the location, for example if it is a question of moving production – the casting machine experts from Kurtz support you as well as possible in this! ■



New applications, new markets, new ideas

The third Kurtz specialist seminar for particle foams in the Mexican city of Cancún was completely under the banner of innovations and was a complete success. All told, more than 30 companies from North and South America and Europe had travelled there to get information about the latest technologies, materials and processing methods.

In the field of EPP particle foams, JSP presented the latest development in EPP materials and applications and showed a prospect of market trends. Above all surface finishing with structures such as leather pitting is right at the top of the EPP customers' lists of wishes – the material is increasingly being used in the visible area of coatings such as pump housings or boiler insulation. As a specialist for development and design of technical EPP applications, the firm of DMT explained the possible potentials of EPP in the mechanical, thermal, electrical and acoustic area. In particular, the new requirements for the introduction of electrically driven vehicles and the great chances of growth connected with this were discussed.

EPS with potential

Poliololes gave a complete overview for EPS particle foams: precisely with a view to saving energy, EPS is increasingly being used in roof and façade insulation. This means corresponding, economic manufacturing processes in order to serve the market, which is growing very quickly – and so that EPS can assert itself in the long term against alternatives such as PU. The Kurtz foams section presented a special highlight with its new revolutionary plate machine: it enables production of EPS plates with a cycle time of 30 seconds and a thickness of up to 300 mm. In this context, the energy consumption is drastically striking: less than 2 kg of vapour per plate, which makes the method very interesting compared with block production. In this way, plate production can be decentralised and the distances to the final customers become shorter and shorter, which has a positive effect on CO₂ production and transport costs.

BOX FOAMER halves cycle time

A further attraction was the new BOX FOAMER, which halves the cycle time compared with the customary method with vacuum. A fish box, for example for salmon, can now be produced in about 30 seconds – with energy savings of up to 50 per cent. This kind of production is principally suitable for all boxes, be they for fish, fruit, vegetables or picnics. This results in completely new possibilities of increasing production by up to 40 per cent without investments in new energy supplies being necessary.

Tools, automation and more

The firm of Olmedo – partner of Kurtz in mould construction – explained the technical details of the “coreless” mode of construction of the moulds, which makes these cycle times and energy consumptions possible in combination with a specific machine technology. A special talk showed the possibilities of Kurtz automation in cooperation with the automation partner Mac Due & Kuka Robotics. They range from simple disposal of the moulded parts from the machine right down to complete palleting of finished products. Positioning of inserts and packaging in film are also possible and can be supplied by Kurtz and its partners as a complete solution.

Thanks to the introduction of the new BASF material “Infinergy” (ETPU), a completely new kind of particle foam, which not only demands other machine technologies, but also develops new markets, has come onto the market. Possible fields of application were discussed and the great potentials were demonstrated with the example of a large sports article manufacturer. The event was closed by the talk by the “EPS Industry Alliance”, in which they reported on their activities on the EPS market. The participants then travelled back home satisfied and with plenty of input for their foam business in their bags. It is clear: we will meet again – at the fourth Kurtz specialist seminar for particle foams, wherever it may be held! ■



The participants took home lots of input and innovations from the third Kurtz specialist seminar for particle foams in Cancún (Mexico).

Ideally equipped for the future

On the Eisenhammer site in Hasloch, the Kurtz Ersä Group continues to work at a great pace on the completion of a very ambitious project: Ten million were invested by the company in one of the most modern hand mould foundries in the world – the “Smart Foundry 200.” Production begins in just a few weeks ...

The new iron foundry project was an ambitious matter, not only financially speaking. In terms of the timing too, the construction of the Smart Foundry was on a very tight schedule. But once the first sod was turned at the beginning of February, the mild winter meant that work could proceed at a smart pace with production continuing almost unimpaired at the same time. But to get back to the building project itself: It was not a matter of simply setting down a ground slab – over 300 bored piles had to be sunk deep into the ground to carry the many tons of weight to which the hall would later be subjected, in the solid bedrock. The construction of the basement of the hall was followed by the pouring of the concrete for the floor slab and walls; the foundations and retaining walls of the basement were completed. Now things had progressed to a stage where the steel structure of the individual halls could be tackled – since the beginning of the summer, the shell of the new iron foundry has been in place. After 1½ years, a project of the Kurtz Ersä planning team has been brought to a successful conclusion – almost, as the cranes and plant still have to be installed in the halls. And the Kurtz foundry workers eagerly await the start of production in their Smart Foundry – we’re almost ready to go!

Core competence iron casting since 1852

Founded in 1852, the iron foundry, like no

other trade, embodies the core competence of Kurtz Ersä. With this investment featuring the latest technology, the iron foundry embraces the vision of the group, to be the best foundry partner for the customer.

Perfect partner for the mechanical engineering industry

In terms of strategy, the focus is on the development and deepening of long-term customer relations; similarly continued growth is planned with new customers, primarily from the German mechanical engineering industry, for example from branches such as machine tools, motors, energy, medicine and drive engineering, ship building, plastics machines as well as printing and paper machines. “We believe in the German mechanical engineering industry as the main customer for our cast iron products,” says Kurtz Ersä CEO Rainer Kurtz with conviction. In order to ensure that the project is a complete success Kurtz Ersä is focussing more closely than ever before on the service concept in the value added chain of its customers. Inseparably linked with this is the continuous production over SAP R3 with connection to the internal transport system, with driverless transport equipment moving the pallets at the defined time to the respective workplace. Here casting can be carried out at the specified time. Similarly, the connection of customer systems via the Electronic Data Interchange (EDI) is part of the standard and certified process in accordance with DIN ISO 9001, environmental certification in accordance with ISO 14001 as well as health and safety protection in accordance with OSAS 18001. Everything is going to plan; the team in Hasloch is geared up to advance iron casting to the fore!

The new iron foundry represents the vision of Kurtz Ersä: to be the best partner in foundry for the customer with the newest technology.



At Hasloch one works with high pressure at the completion of the “Smart Foundry 200”, worldwide one of the most up-to-date hand mould foundries.



Key data Smart Foundry 200

- Ideal for unit weights between 300 and 8,000 kg
- Medium batch sizes between 5 and 20 units, annual production as a rule under 1,500 units
- Alloys: grey iron GJL 150, GJL 300; spheroidal casting GJS 400, GJS 800; special materials ADI, GJS 500-10, GJS 500-14
- Annual capacity: 20,000 t, in the second stage of expansion 25,000 t



The new framework for the Kurtz Aluguss, who works for different branches like automotive industry, medical engineering and aerospace, sets the prerequisites for the planned further growth.

Aluminium casting hones its own profile

Since its separation from Kurtz GmbH, the aluminium foundry has been operating independently under the name "Kurtz Aluguss GmbH & Co. KG." But although it may sound easy on paper, it has been a major feat by the team led by managing director Matthias Sacher, who has been on board since February 2014. However all the effort has paid off!

Since 1 November 2012 Kurtz Aluguss GmbH & Co. KG has been standing on its own two feet – and quite a lot has been happening during that period. Investments were made in various locations, for replacements and expansions; these include machine control systems and peripheral equipment, not forgetting the dispatch centre established at the Kreuzwertheim site in 2013. All these developments have established a framework for the planned further growth. But the most important asset of the aluminium casting arm is a member of staff who has been in

place since early 2014 when, on 1 February, graduate industrial engineer Matthias Sacher took up his post as managing director.

The new manager found a situation characterised by the fact that, on his arrival, numerous central departments, such as order processing, order preparation, dispatch, purchasing and quality control were still administered from a joint order processing centre at the iron foundry site in Hasloch. There was an urgent need for action here, so Kurtz immediately provided the company with its own employees for these areas – especially quality control – so that the work could be done centrally from Kreuzwertheim. "Our procedures have become so much faster and more streamlined than was ever possible before. At the Wiebelbach site we need an aluminium casting team with each member working in close proximity to the others, able to devote their manpower entirely to the benefit of the company," says the 54-year-old manager.

Creating the structure for future growth

Matthias Sacher considers his predominant task to be the establishment of a structure that is in a position to handle the planned future growth. The existing business is also being closely examined, with loss-making aspects turned round to produce economic potential and finding solutions for the excessive spoilage rate in some areas.

"Some of the batch sizes were far too big – we are now taking control of this aspect in order to raise the quality substantially," says Matthias Sacher, who wants to introduce binding standards in various areas. The production planning was originally set to run using SAP from July, but Sacher says: "This is not a problem from the programming and IT point of view, but in combination with the overall revision of the ranges and stocks and given our team power, it will not be feasible until September."

Kurtz Aluguss heads in new directions

Having been with the company for five months now, Matthias Sacher has now set the target for his team at a growth of ten per cent for 2014. But in order to do so, he first needs to introduce a sustainable basis, and this requires a certain amount of time. And he wants to steer Kurtz Aluguss aluminium casting in new directions, for example as a provider of development services. Of course, the aim is always ultimately to obtain a flow of orders. This approach has enabled Kurtz Aluguss to obtain two very interesting enquiries from the expanded catchment area of the automotive industry. "It is still too early to discuss it – but this means real potential for aluminium casting and therefore for the Kurtz Ersa Group," says Sacher. We are already excited about what this means for us – but until all becomes clear the aluminium casting team is concentrating on preparing itself for future orders! ■



Adapter plate, blade wheel, pump case or cylinder block – Kurtz Aluguss CEO Matthias Sacher (left) and his team provide their know-how completely to the service of the customer.





Partners in sheet metal – teamtechnik and MBW

The teamtechnik Group from Freiberg am Neckar is one of the leading international specialists for highly flexible automation. All over the world, 850 highly qualified employees produce turnkey systems for assembly and testing engineering – with automation solutions which start where standard systems hit the wall. An integral part of the teamtechnik solutions for years: the high-quality products from the sheet metal and system supplier MBW.

The field of activity of teamtechnik Maschinen und Anlagen GmbH is very complex just taken on its own: high-capacity, reliable automation solutions for medical and solar engineering and also the automotive industry. With years of know-how and great engineering

competence, the teamtechnik engineers convert demanding manufacturing processes into innovative system engineering.

Medical requirements, optimum solutions

Let's remain with medical engineering: in this business field, teamtechnik concentrates on high-production systems for medical engineering components such as injection or inhalation systems made of plastic. For this, the employees of teamtechnik develop flexible solutions close to customers' requirements with great success, integrate demanding testing technique and fulfil the requirements made of clean room versions. Urgent prerequisite: a mastery of complex and precise process engineering for demanding tasks in assembly, testing and production.

Customers from all over the world stake on the intelligent high-speed systems from teamtechnik. But it is more than a question of merely increasing speed and efficiency – the specific hygienic requirements which production in the medical engineering area has to fulfil must also be taken into account. Highest requirements down to the last detail – this applies not least to the sheet metal products used by teamtechnik.

Long-term extension of the system partnership

With MBW Metallbearbeitung Wertheim GmbH and its high-quality sheet metal products as well as optimum system solutions, the specialist for automation solutions has found the perfect partner for the sheet metal process chain: "MBW has accompanied us reliably for years as a sheet metal supplier and later as a system supplier. With great flexibility,

high quality and high customer-orientation, MBW does an outstanding job. MBW's great know-how and reproducible quality are a firm part of our successful delivery and service chain. We are pleased to be extending this stable partnership in the medium and long term", says Frank Lindenfelser, Head of the Procurement Area at teamtechnik.

MBW Managing Director Ewald Garrecht is also very satisfied about the good partnership of the two companies, in which Metallbearbeitung Wertheim has worked its way up from a sheet metal supplier to a system supplier in the course of time. "With our know-how of development engineering, we have developed components in optimised production engineering in close cooperation with teamtechnik and now produce them here on very modern production systems." An equally

important factor on the MBW side: the constantly high and reproducible quality in joining and combining of components by experienced and qualified welders and perfect surfaces with component sizes of up to 1.6 x 1.8 x 4 metres with the new automatic continuous powder-coating system. In the future as well, there will be a strong connection between Main and Neckar: teamtechnik and MBW. ■

Business fields:

- Medical engineering
- Solar engineering
- Automotive industry



teamtechnik – facts and figures

- Founded in 1976
- Turnover: 150 million Euro
- Employees: 850
- Headquarters: Freiberg am Neckar
- Production locations: Germany, Poland, China, USA



Worldwide Presence

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