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August
2019

Kurtz Ersä Magazine

For Customers and Business Partners of Kurtz Ersä Corporation



Kurtz Ersä Corporation

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 kurtz ersa

Polished to a sheen for our customers



Rainer Kurtz,
Chief Executive Officer
of the Kurtz Ersa Corporation

Discussion has been ongoing for years as to whether digitisation, internet, global connectivity and virtualisation will be detrimental to the international trade fair business, or even make it entirely obsolete. Every year, either directly or indirectly, Kurtz Ersa takes part in over 40 regional, national and international exhibitions and fairs. As world market leader in all our business sectors, 2019 is a very special year for us, as all the world's leading trade fairs relevant for us are taking place.

Things kick off in June with GIFA, the international foundry trade fair in Dusseldorf. Every four years we present our entire system competence here, showing low-pressure casting machines, trimming presses and system interlinking. This is followed in October by the international trade fair for plastics, K 2019, where we prove our competence in particle foam processing every three years.

Last of all, in November, Kurtz Ersa presents solutions for the electronics-producing industry at productronica 2019 in Munich. At this leading world fair we show the widest product spectrum in this branch centring on electronic component mounting technology.

Because of the differing cycles, these fairs all take place in the same year only once every twelve years. For Kurtz Ersa this is one more reason to demonstrate the outstanding synergy possibilities. This allows us to repeatedly present our transversal competence in the areas of digitisation, Industry 4.0, automation and line competence – and we take pride in doing so! Incidentally, to date, we have seen no sign of a waning in demand for leading trade fairs as a result of the introduction of new technologies. Rather, these interesting venues are keenly availed of for a combination of navel gazing on the state of the art and the irreplaceable personal contact among individuals and specialists. Fun and success characterise our participation in these marketplaces.

This special fair year, 2019, is marked by uncertainty, both politically and with regards to trade. In these interesting times, in particular, personal interaction is more important than ever. We hope you enjoy the latest edition of the Kurtz Ersa Magazine. ■

GLÜCK AUF!
Your Rainer Kurtz



KURTZ ERSÄ CENTRAL WAREHOUSE SUCCESSFULLY IN OPERATION FOR ONE YEAR

888,888 movements!

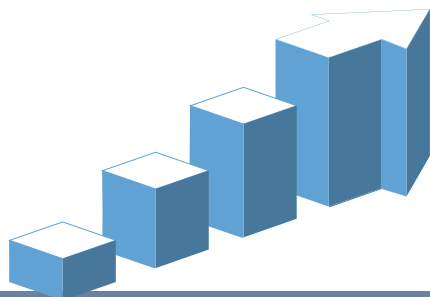
The people in charge of the Kurtz Ersä Central Warehouse in Wiebelbach were delighted at the middle of the year: just over a year after the official commissioning of the new highly automated logistics system on 25 June 2018, head of logistics Matthias Hofmann was able to hand over an anniversary shipment with the 888,888th warehouse movement.

The addressee was a major Chinese customer, and Ersä General Sales Manager Rainer Krauss took over the symbolic handover. In Chinese culture, the number “8” is a special lucky number associated with prosperity. With China as the largest single market for Kurtz Ersä, the Group’s internal logistics also maintains intensive relations with China. From Wiebelbach, the Southeast Asian service and sales locations as well as the production plant in Zhuhai are supplied on a weekly basis, and numerous consignments for Chinese end customers leave the modern central warehouse every day.

“We are very satisfied with the performance of the entire plant,” says Matthias Hofmann, Managing Director of Kurtz Ersä Logistics. In addition to on-time delivery to customers, important goals, such as a very high adherence to delivery dates for deliveries to domestic production plants and a significant reduction in the picking error rate, were already achieved shortly after commissioning in the summer of 2018. Currently more than 3,000 delivery items leave the new location in Wiebelbach every day. The logistics team will probably process and document the millionth movement in the third quarter – let’s move! ■

Delivery of the anniversary shipment for a major Chinese customer – it is the 888,888th stock movement in the Kurtz Ersä central warehouse.





For us as family entrepreneurs in the 7th generation, traditions and values have played an important role in the management of the Group for 240 years.

We attach great importance to open interaction, mutual respect, helpfulness and consideration.

As the Kurtz Ersa Group, we see ourselves as a corporate family that includes not only all employees but also the children of our employees and pensioners.

Growing together on challenges!



We grow with our challenges and celebrate success together. We challenge and support our employees. To this end, we cultivate a culture of trust and open up opportunities for personal responsibility. Our working atmosphere is characterized by mutual esteem, in which all individual contributions count. Because our employees are close to our hearts, we offer them not only exciting work in an international technology group, but also numerous additional benefits such as flexible working hours, childcare and home office solutions to enable them to life-phase oriented work and to achieve an optimal balance between their professional and private lives.

PERSONAL COMMITMENT FOR SUSTAINABLE VALUE CREATION

Commitment, creativity and performance are the hallmarks of a modern, success-oriented workforce. The Hammer Academy therefore offers over 200 different training courses and seminars for individual development. Employees participate in the company's success, because every employee contributes to the sustainable added value of the company with his or her personal commitment. In addition, employees benefit from discounted insurance, private and company pension schemes and discounts on many external products and services.

The central concern is to involve employees in all processes and to make decisions transparent. Executives are expected to demonstrate exemplary social behavior – as well as positive, inspiring leadership qualities and professional interaction with the various team players.

TRUSTING INTERNAL AND EXTERNAL COOPERATION

This is also reflected in our corporate principles, which focus on our employees and our customers. Through trustful cooperation within and outside the organization, we further extend our technological lead and occupy the leading position in our markets.

At Kurtz Ersa, sustainability is an integral part of our corporate culture – including the health and well-being of our employees. After all, a healthy, functioning team is an essential prerequisite for the performance and thus the success of our company. Health care and health protection at the workplace are a matter of course – as are ergonomically and modernly equipped workplaces for our employees. ■





Digitization as Journey #02

With the P01 project, Kurtz Ersä and its customers are embarking on a journey into the ever-increasing world of digitization. In addition to product development, internal processes are also improved – making Kurtz Ersä more efficient also benefits the customer.

KURTZ ERSÄ AS A SERVICE aims to continuously develop our products in such a way that our customers benefit as much as possible from digitization. The focus is on the exchange of information. Which information is confidential and which can be shared? Who guarantees the secure handling of confidential data? What are the benefits of exchanging information? This is where we seek dialogue with our customers at trade fairs – such as GIFA 2019. We develop suitable solutions for our various products, which we then successively test and improve with a small circle of customers. Internally, we have built up resources that develop solutions exclusively for digitization, coordinate roadmaps and implement agile projects.

For example, valuable time can be saved on machine service requests if we already have all the relevant data from the serial number to other machine parameters. So-called “edge devices” log the data, store and send it – and also offer evaluations directly at the machine. Faster service is only the first step towards realizing the vision of continuously improving the customer’s production process. However, knowledge of the confidentiality of the data acts as an antagonist.

Which data is required for which business requirements? What about trade secrets? Solutions lie here in the logging of data traffic for traceability, in the creation of standards and in certification bodies that check the process and certify the security level independently. The parties involved must be more concerned with the data and its significance. All customers provide machine-related data and benefit from the results of all other customers. We enter this new territory first in a small circle with a few interested customers in order to work together effectively to develop solutions that bring benefits and protect the interests of all.

PAPERLESS PRODUCTION provides the worker with all the necessary and relevant information directly in digital form. The specialist departments have created a concept with IT, the feasibility of which is now being put to the test.

THE EMPLOYEE PORTAL is the new digital user interface on which every employee will find all relevant information in one place from autumn 2019. Applets for all topics can be added or removed individually: News, templates, organization charts, calendars, collaboration, jobs, canteen plans, e-mail, business trips, purchasing, vehicle fleet and many more. ■



Participants of the Asia Sales Meeting at the new Kurtz Ersä site in Ho Chi Minh City (Vietnam).

MARKET REPORT

Vietnam serves Vietnam!

"Around 100 million inhabitants live here, the economy grows by around six to seven percent a year and over 40 percent of the population is called Nguyen by surname" – with these words Ulrich Dosch, Business Development Manager of Kurtz Ersä in Asia, describes Vietnam in one sentence. Due to the highly dynamic development in local electronics production and especially at the request of its customers, Kurtz Ersä founded its own subsidiary in Ho Chi Minh City on December 03, 2018, which has been growing continuously ever since. Close business relations have been maintained for many years with the major EMS providers (EMS stands for Electronics Manufacturing Services) such as Samsung, Jabil and Foxconn, which operate huge production sites in Vietnam. But also to the state-owned companies that have a high demand for Ersä technology. There is also an increasing demand for products and solutions in the plastics proces-

sing industry. Here, for example, suppliers from the sports shoe industry are being supported. Customers greatly appreciate having contacts in the immediate vicinity of their own locations who offer a 24/7 service in the local language.

Other customer benefits include local spare parts supply, invoicing in Vietnamese currency and visa-free entry. In addition, the interest in Vietnam in regular information on new technologies and the associated higher productivity in soldering technology is enormous. For this reason, Kurtz Ersä Asia, in cooperation with local representatives, regularly organizes training courses, technology days or information events such as the "Soldering Technology Convention".

Ulrich Dosch adds: "Our Application Center, which provides our customers with technologies and solutions for current trends on



around 500 m², is also very well received – here you can respond directly to the ideas and wishes of our customers at the machine, a real plus point for us! ■



MARKET REPORT

Good impetus for US economy



AUTHOR: ALBRECHT BECK
MANAGING DIRECTOR KURTZ Ersa, INC.

Many great developments such as Tesla's autonomous driving electric cars or the thousands of innovations with smart devices or the internet of things are all good stimulations to our economy. Accompanied with huge government spending in tax reductions and a low interest rate policy helped the US in keeping a stable and strong economy with a 49-year low unemployment rate of only 3.6%. For Kurtz Ersa, Inc. the last eight years where consecutive record-breaking years where we could on one hand benefit from market growth by increasing our market share but also growing organically with the market itself.

TARGETED INVESTMENT IN EFFICIENCY AND PRODUCTIVITY

On Kurtz products for example, we are quoting several big projects with high probability as customers are investing into automation and modernization of many targeted foam plants. Investing in high efficiency and productivity means also, we as a global technology leader, potentially getting a big part of those projects. Hereby the positive impact of a record low unemployment works in our favor as customers do not get enough low-profile labor for handling molded parts. Such jobs go more and more into automation where we as a company have been focusing for some time on this coming trend. A recent example is our success with the ROTO FOAMER where we helped our customers increase significantly productivity and handling capabilities.

On Ersa products we see our biggest success in Selective Soldering where we are leading the high-end market. Beside many new customers we are also getting many repeat orders from satisfied Ersa VERSAFLOW customers by increasing their capacity or replacing old equipment. Also, over many years our continuous innovation path as well as a great local service helped us immensely in becoming the number one selective soldering supplier.

With our new higher automated rework systems, we can also see a steady growth and positioning the Ersa tools business under the top tier players. Year to date we can see a strong rework growth for KEI. Adding several tools products too Amazon has shown a positive move with internet selling. Especially at Ersa tools we are having a strong focus developing it to a recognized player in North America. ■



The Kurtz Zhuhai Manufacturing (KZM) team with the 1,000th Erska HOTFLOW reflow soldering machine produced in Zhuhai.

KURTZ ZHUHAI MANUFACTURING PRODUCES 1,000TH REFLOW SOLDERING MACHINE

Production anniversary for Kurtz Erska in China

Nearly at the same time as the roofing ceremony for the first building of the factory extension, Kurtz Zhuhai Manufacturing Ltd. (KZM) had another reason to celebrate: On April 08, Sam Ho, Factory Manager of Kurtz Zhuhai Manufacturing, proudly announced the completion of the 1,000th “made in Zhuhai” reflow soldering machine. The first machine was delivered to a Chinese customer in July 2013. The recipient of the 1,000th machine, a HOTFLOW 3/26, was the Taiwanese EMS service provider Luxshare, for whom it was already the 63rd machine. Kurtz Erska Asia is particularly proud of the fact that its reflow customers include many big names from the Chinese electronics industry – mainly from the sectors smart-phone, telecommunications, automotive, IT, network and Internet of Things (“Smart Products”).

It is not uncommon for a single customer to have between 20 and 50 machines installed – impressive evidence of how satisfied users are with the quality and

performance of Erska’s machines and have therefore chosen KZM as a key supplier for their SMT production. Obviously, Kurtz Erska’s hybrid machine strategy was well received by customers.

Hybrid means the synergy of German engineering and Kurtz Erska quality standards combined with the advantages of local procurement and production. In this way, the user receives machines that meet the highest demands, can be delivered quickly and at the same time offer an attractive price/performance ratio. In the meantime, more than ten different HOTFLOW variants are being built in China, and the number of customer-specific modifications is constantly increasing.

This represents one of the greatest challenges for the KZM team, as standard delivery times in Asia are only four to six weeks. Accordingly, KZM now has its own small development and design department that deals with product improvements.



Sam Ho (left), Factory Manager of Kurtz Zhuhai Manufacturing, and Bernd Schenker, Managing Director of Kurtz Erska Asia.

“The success of the KZM reflow system is primarily due to the close cooperation between the Erska employees in Wertheim and KZM Zhuhai and to the high motivation of the KZM production team,” emphasized Bernd Schenker, Managing Director of Kurtz Erska Asia.

Currently, up to 50 machines are produced in Zhuhai each month – the order books are very well filled for the coming months as well. ■

2019猪

MARKET REPORT

„German Technology – assembled in China“

2019 is the Chinese Year of the Pig and it promises friendship, happiness and financial success. The best prerequisite for Kurtz Ersä to achieve strong growth in the Chinese market again this year. “The conditions for this are almost ideal,” says Bernd Schenker, Managing Director for China and the entire region of Southeast Asia. “We are currently planning to expand our production capacity in Zhuhai in order to be able to meet the high customer demands quickly and with the usual high quality.” A big opening ceremony with customers and employees is planned for December 2019. And quality is becoming increasingly important in China. A trend that has been emerging for a few years – only cheap and fast was once, Chinese attach importance to highest quality. A develop-

ment that Kurtz Ersä can only be right about. “The demands of our customers on products and service are becoming ever higher – and we can meet them,” says Bernd Schenker. And he adds: “Our Chinese customers only want one thing: high tech and the best products.” In addition, the company offers a comprehensive service in terms of spare parts supply and maintenance. This is what Kurtz Ersä Asia provides according to the “24/7” model, that means seven days a week and around the clock. More than 200 employees at three locations look after Chinese customers and an increasing number of customers from Taiwan, Vietnam and Thailand.

The Hong Kong headquarters is working on strategic goals and planning service con-

cepts specifically for each individual region. The aim is to increase market share and, above all, to achieve sustainable growth in promising industries. The current innovation drivers such as the development around 5G, Internet of Things and electric mobility are important segments which Kurtz Ersä covers with its products and which must be occupied in order to consolidate and further expand its strong market position. But not only the electronics industry is served, also foundry and foaming machines are in high demand. “Smartphones are stagnating – but high tech in electronics production continues to grow,” says Bernd Schenker confidently. “And with the ‘German Technology – assembled in China’ approach, we are on exactly the right track here!” ■

And the winner is ...

As every year since 2014 Kurtz Ersä chooses the wine of the year, the so-called HAMMERWEIN. This year the Augustin winery from Sulzfeld in Franconia has made it to the top with its “Weißer Burgunder 2017”.

The award is not only praise and honour, but also an incentive for future top performances. Congratulations! ■



Rainer Kurtz, Chairman of the Board of Management of the Kurtz Ersä Group, with the HAMMERWEIN 2019.



Ersa opens second production line

For over ten years now, the machines at Ersa are being built in a synchronised flow production process. Due to the enormous growth of recent years, the capacity of assembly line 01 was no longer sufficient. After the ground-breaking ceremony in July 2018, it took less than a year for construction phase 01 to be completed and machine production to start on assembly line 02 in July 2019. The new location with a production area of 1,000 m² directly opposite the Ersa headquarters is a considerable expansion of production capacity and answers the continuing high demand for Ersa soldering systems. Over the next few months, a third assembly line and a machine laboratory will be built here.

The maiden voyage in the new twelve-stroke production facility was reserved for the VERSAFLOW 3 bread and butter machine – the selective soldering system has now been successfully installed more than 1,111 times on the customer side. A specially defined process team had one week from 03 June to run through the previously theoretically defined processes cycle by cycle on the first machine and to check whether they had actually planned opti-

mally. “We had identified a potential of around 40 percent in advance, which impressed even experienced Ersa experts – but everything really has to fit together: design, process, tools, aids and, last but not least, the will to implement on the part of everyone involved,” says Hammer Consultant Alfred Elsdörfer, who completely accompanied the construction of the new line. The timing was and is a challenge of a special kind. After all, in addition to the



The machine production on the new cycle line 02 has started.



VERSAFLOW 3, the standard variants of the VERSAFLOW 4, ECOSELECT and POWERFLOW should also run over the same line in the same cycle and with maximum variance. In order to counter this variance, a system had to be developed that could handle both the basic machine and a fully equipped multi-module machine. "The result is a sophisticated tool and material supply system that allows us to distribute work contents over a maximum of two cycles. This allows us to react flexibly, but still in a standardized environment, to variant-related fluctuations in work content," says Elsdörfer.

MORE OUTPUT, OPTIMIZED ERGONOMICS

In addition to increased output, the Ersä management attached great importance to efficient, ergonomic workstations, which optimally support the employees in the line, of course also digitally. Drawings on paper are obsolete, the electricians call up the cir-

cuit diagrams digitally via tablets that can be attached to suitable brackets in the control cabinet in order to implement them 1:1. In future, lifting aids will help to integrate a fluxer portal into the machine frame – where up to four fitters were previously required, only one worker will then be needed. The assembly of panes and control panels is also considerably simplified – they are already completely pre-assembled outside the machine and will soon be positioned and fastened using a lifting aid.

The pre-assembly will initially remain at the old location – at least until the completion of construction phase 02 directly next to the new production facility, where further production and office space will be created by the end of 2019. The workstations for pre-assembly at the old location, however, are already being set up in line with the new line and with improved ergonomic aspects, for example with support from height-adjustable assembly devices (lifts) or standardised provision of material and tools. Those responsible for the project therefore

expect the commissioning time for the move to be considerably shortened. The first machine to be produced on the new line has long been in use at the customer's, and shortly afterwards the stress test was also successfully passed – from now on production will be ramped up step by step.

With the completion of construction section 02, the stencil printer VERSAPRINT 2 and line capable rework systems will also be produced at a new location.

"We have invested a lot of effort and energy to meet the demand of our customers – a fantastic result for which I would like to thank all Ersä employees. Knowing full well that during the transition period a lot of patience, flexibility and perseverance was required from all involved. But it has been worth it and is an expression of the great ambition of the Ersä team to jointly produce a highly modern production facility – that will bring us a great leap forward as a company," says Ersä Managing Director Ralph Knecht. ■



ERSA SUPPORTS LAB³ WITH SOLDERING EQUIPMENT

From the first idea to the prototype

The vision of the Darmstadt-based Lab³ is to offer a public space with access to professional equipment and an exchange opportunity among those interested in technology. The non-profit association with about 60 members – from pupils to trainees, students and doctoral students to pensioners – supports labspace start-ups in technological matters as a cooperation partner of the technology and start-up center "HUB31".

The close cooperation between the two organizations is also the reason why not only club members and student groups, but also young companies of the HUB31 and even external companies use the equipment of the Lab³ and profit from the know-how of other users. This is a big advantage for start-ups in particular, as they can further develop their first idea and turn it into a prototype.

As far as soldering tools are concerned, the makers have recently acquired extensive Ersa equipment, including the i-CON NANO and i-CON VARIO 2 soldering stations, the EASY ARM 2 soldering fume extraction system, gas soldering sets for mobile work and a HR 100 rework system. In addition to the electrical engineering laboratory, which also houses 3D printers and laser cutters, the makers also have the natural sciences, engineering and formal sciences (digital technologies) divisions, as well as a small production facility with corresponding equipment. The Lab³ members demonstrated what can be achieved by cooperation between different areas at the Healthcare & IoT Makerthon of Telekom and Merck, where they took first place with their development of the prototype "VED4MS". With the help of this portable measuring device, "relapses" in multiple sclerosis can be predicted. ■



○ Ersa i-CON NANO

SUCCESS STORY FROM AMERICA REACHES EUROPE

Rework goes live!



quality of the presentation." After the demonstration, the repaired assemblies are returned to the customer. Contrary to expectations, many customers decided to purchase the Ersä system directly after the online demo. Only in isolated cases did customers want to see the system again before making a purchase decision.

CO₂-FRIENDLY PRODUCT PRESENTATION

In the meantime, customers in Germany and Europe are also using the time and cost-saving, CO₂-friendly way of product presentation. Ersä offers the same presentation technology from the Application Center in Wertheim and has already completed several customer demonstrations online.

"We are still on the learning curve here and are using the experience of our colleagues from the USA," reports Jörg Nolte, responsible Product Manager at Ersä. And adds: "Especially for our HR 600 XL, this type of product presentation is ideal, because the device cannot be presented to the customer due to its size." Of course, customers are still cordially invited to visit the Ersä Application Centers to see for themselves how the systems perform! ■

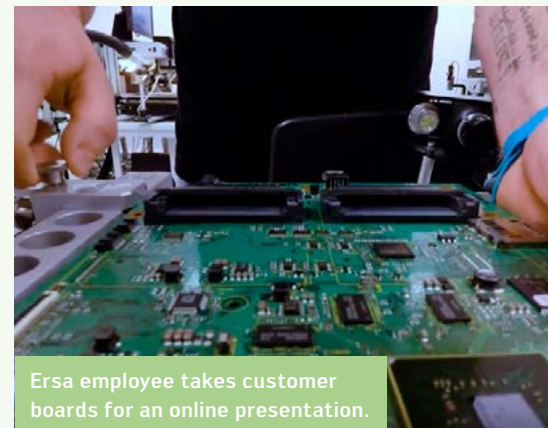
It's a real success story that started a good two years ago in the USA and has now reached Germany and Europe: the online rework demo. How did this happen? Demonstrations of our rework systems at American customers were always associated with high logistical effort and costs – until Todd DeZwarte, Sales Manager for Ersä Rework, Inspection and Tools, took charge and established the online rework demo. An offer that is increasingly in demand!

"This year I have almost exclusively made online demos and customers love it," is how Todd DeZwarte sums up his activities until June 2019. What is behind it? For customers and sales staff, demonstrating a rework system at the customer's site involves a great deal of effort. The first step is to find a time window of at least four to six hours in which the customer's employees are available – and a room with the appropriate infrastructure. In addition, there is the logistical effort for reception and dispatch. Ersä delivers the 100 kg rework system in advance on pallets and the employee travels to the customer – in the USA usually by plane!

FROM CONCEPT TO TRIAL

In addition, challenges arise in connection with customer applications: How is the assembly designed? How is it received in the rework system? Are there sensitive components? And what is the optimal soldering process? All this has to be recognized and decided on site in order to achieve the best repair result immediately. "At first it was an attempt that turned into a concept," remembers DeZwarte. And he continues: "In the USA, the use of video conferencing tools has risen sharply in recent years with the expansion of the fast internet. This made it possible to demonstrate our systems to customers online at their workstations."

With the help of a high-quality webcam and corresponding software, online demos of HR 550 and HR 600/2 rework systems are now carried out faster and more efficiently than ever before. Customers follow the process on their own PCBs and can ask questions about the system or workflow at any time. "As a rule, we receive the boards a few days before the demo and can prepare ourselves accordingly," says DeZwarte, "which increases the



Ersä employee takes customer boards for an online presentation.

ERSA RECEIVES TWO NPI AWARDS AT US ELECTRONICS FAIR IPC APEX EXPO

Courage to size doubly rewarded



Selective soldering in large format and top quality: NPI Award winner Erska VERSAFLOW 4 XL. Also excellent: The Hybrid Rework System Erska HR 600 XL for the high-quality repair of large electronic assemblies up to 625 x 625 mm.

As a market leader in selective soldering and a supplier of award-winning rework systems, Erska had the courage to adapt its soldering machines and systems to the development of flat assemblies. The trend in electronics manufacturing is not only towards miniaturization, but also towards

large, highly integrated and heavy assemblies, for example for control centers or LED lighting technology.

This is where the VERSAFLOW 4 XL comes into play for PCB formats up to 610 x 1,200 mm, which can also solder big

boards safely and efficiently. With up to five heating zones and three VERSAFLEX modules (two crucibles each on two independent axes), the VERSAFLOW 4 XL has found a firm place in the Erska product portfolio thanks to its flexible performance.

Large flat modules are complex and cost-intensive to produce, which is why their repair should be considered as a useful addition. Here, too, Erska has broken new ground for electronics production: With an active heating surface of 625 x 625 mm and a processable PCB thickness of up to 10 mm, the HR 600 XL automatic rework system enables attractive applications in telecommunications, network technology and IT infrastructure.

Customers worldwide are rewarding this step with numerous orders. At the US electronics trade fair IPC APEX EXPO in San Diego, this courage to explore new avenues was rewarded twice – Erska GmbH received an NPI award each for the HR 600 XL rework system and the VERSAFLOW 4 XL. ■

ERSA TRADE FAIR APPEARANCE WITH PARTICIPATION OF INTERNATIONAL PARTNERS

Broad presence on SMTconnect

SMTconnect in Nuremberg came to an end on May 09 with a continuing good response from visitors over three days. Under the title "Solutions for electronic assemblies and systems", the trade fair with over 400 exhibitors and 26,400 m² of exhibition space was the meeting place for the community and all areas of electronics manufacturing. Erska showed a clearly visible presence and remained true to its concept of a digital booth.

Under the motto TIME4YOU, the company was able to hold many good discussions with customers and interested parties. The presence of many Erska representatives from almost the whole of Europe as well as India and Turkey proved to be extremely advantageous. Erska made a physical statement when it came to the repair of assemblies



Erska trade fair team with Erska representatives from almost all of Europe as well as India and Turkey.

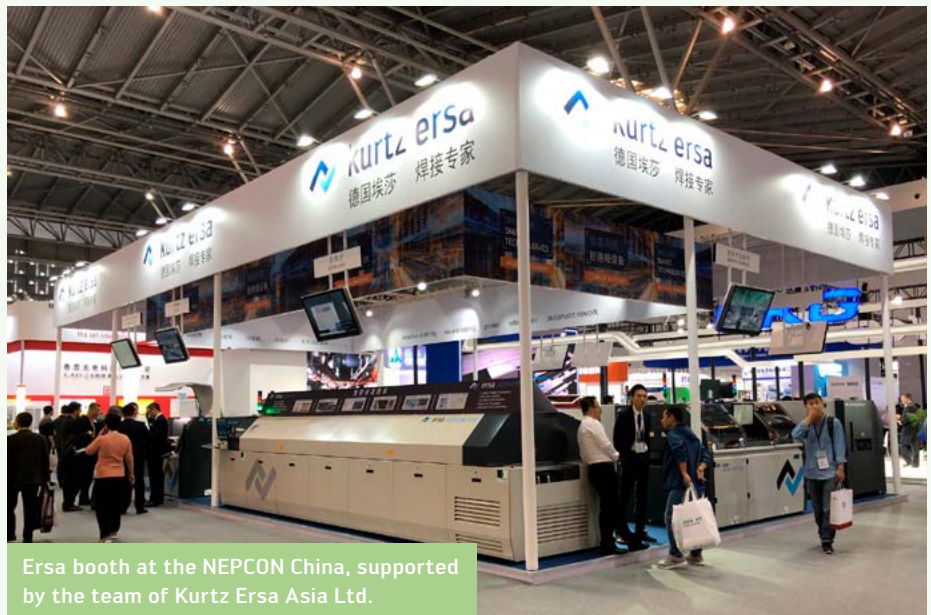
with the rework system HR 600 XL as a real exhibit – it was easy to demonstrate that rework had long since left the "desktop" world.

The HR 600 XL enables almost fully automatic processing of "big boards" in 625 x 625 mm

format with a PCB thickness of up to 10 mm. "We are very satisfied with the three days here and are already looking forward to production, where we will be presenting a number of innovations that will make our customers' production even better," said Erska General Sales Manager Rainer Krauss. ■

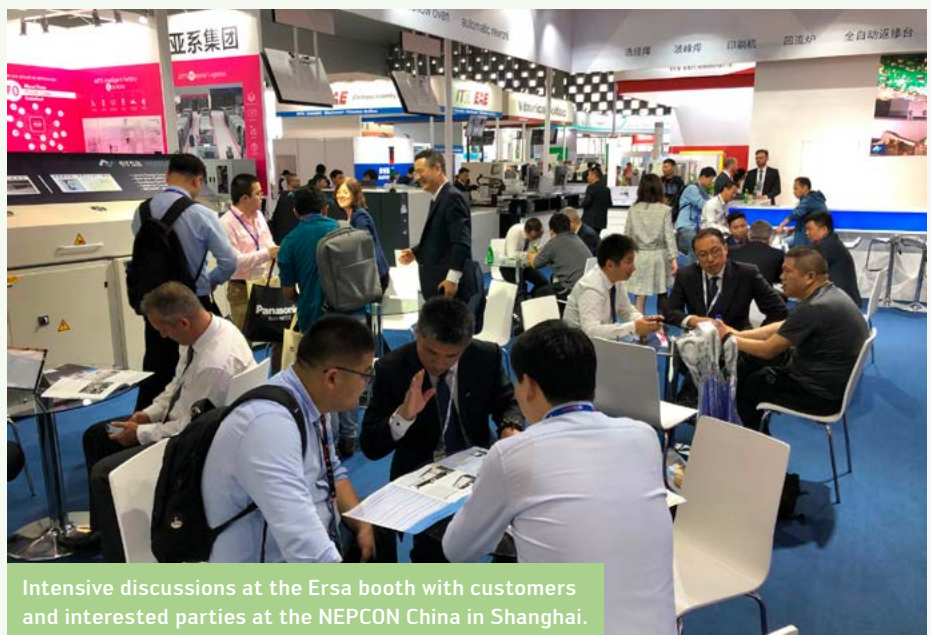
Ersa presents future technologies at NEPCON China

Also this year the NEPCON China took place here from 24th to 26th April. For Kurtz Ersä Asia, participation has been a tradition for many years. The technology groups based in China are key drivers of the 5G technology of the future. The special requirements placed on 5G products require special features and options in the manufacturing process. Kurtz Ersä presented machine and plant types that meet these requirements on a large exhibition stand. These include the POWERFLOW N₂ XL wave soldering system, which can process extremely large and heavy PCBs. In addition to conventional wave soldering, selective soldering, which was demonstrated on the VERSAFLOW machine platform, has become established for THT processing.



Ersa booth at the NEPCON China, supported by the team of Kurtz Ersä Asia Ltd.

In the field of SMT production, state-of-the-art machines were presented with the stencil printer VERSAPRINT 2 and the reflow oven HOTFLOW 3/20. The hand soldering machines and the newly developed rework system HR 600 XL were also very well received. "The broad product portfolio allows us to act as a system supplier and to advise our customers with comprehensive know-how – this is particularly appreciated by our Chinese and Asian customers," summed up Ulrich Dosch, Manager Key Accounts, at the end of a successful trade fair. ■



Intensive discussions at the Ersa booth with customers and interested parties at the NEPCON China in Shanghai.



DESIGN FEATURES IN THE DEVELOPMENT PROCESS OF ELECTRONIC ASSEMBLIES ENABLE RELIABLE MANUFACTURING PROCESSES

2nd technology seminar at Ersä

The foundation for reliable electronic systems is laid with the design and production of PCBs. Under this motto the second technology seminar “Design for Manufacturing” took place on June 4th and 5th at the Ersä headquarters in Wertheim.

After last year’s great success, Jürgen Friedrich, Head of Application Technology at Ersä, welcomed 46 participants from Germany, Austria and Switzerland to the 2019 event. In the introductory lecture he presented practical examples of the various influencing variables on which the quality and reliability of electronic assemblies in the manufacturing process depend. The arc was drawn from circuit board design to various component specifications, the diverse soldering processes and the specialist knowledge of the employees who operate and program the production systems.

The rapidly progressing digitalization of almost all areas of our daily work is based on electronic systems and assistants. These systems are increasingly intervening directly in our lives to protect them – as current development trends in the automotive industry show. This requires 100% functional integrity, as malfunctions cannot be tolerated under all conceivable operating conditions.

Arnold Wiemers, Technical Director of the Berlin Leiterplatten Akademie (Circuit Board Academy), spoke on the fundamental challenges of PCB technology and CAD design. In his lectures, he dealt in detail with topics such as CAD layout and libraries, properties of base materials, special features when etching copper structures, building multilayer PCBs and designing LP benefits. His comments on UL solder limits showed that these are technologically sensible, but often difficult to implement in practice.

Helge Schimanski, group leader at Fraunhofer ISIT, Itzehoe, introduced the trends in the miniaturization of SMT components and the special features of processing new designs. His further lectures were characterized by topics around the requirements of PCBs for these new designs and their solder paste printing. His presentations were rounded off by reflections on the reliability of solder joints and an exciting presentation on the limits and possibilities of various test methods.

The complexity of networking and monitoring a production line was the subject of a lecture by Hans-Jürgen Lütter, Managing Director of ANS answer elektronik Service- & Vertriebs GmbH. In addition to the central control of process parameters in order to

be able to react immediately if irregularities occur, the goal of comprehensive networking is also the documentation of the individual processes in the customer’s focus. Another topic was the optimization of the throughput of production lines with frequent product changes or small batch sizes. Finally, the soldering processes were the focus of attention, since they are the central process step that has to reliably connect PCBs and components. Jürgen Friedrich demonstrated how the soldering heat requirement of a solder joint is directly dependent on the layout of the printed circuit board. Using examples from daily THT and SMT practice, he showed that the thermal load of a component can be reduced in multiple soldering processes. This reduces the thermal stress on assemblies during the manufacturing process, which in turn has a direct positive effect on their quality and reliability.

At the end of the technology seminar, the potential of “Design for Manufacturing” became clear – the high number of satisfied participants and consistently positive evaluations underline this assumption. ■

IServMM

First International Service Meeting Machines



At the first IServMM there were numerous constructive discussions about the different machine types.

Alternating with the already firmly established International Sales Meeting, which takes place every two years, an International Service Meeting in the form of a two-day workshop took place for the first time at Ersä in Wertheim from 15th to 18th May. All service technicians of all Ersä agencies worldwide were invited. 40 external participants from the DACH region (Germany, Austria, Suisse), Europe and Asia had confirmed their attendance.

The concept of the workshops was explicitly aimed at the exchange of our service partners experienced in the field with design and development. The result: many lively and constructive discussions about the various machine types! Divided into four groups (one for each machine type: Wave, Reflow, Selective, Printer), a rolling system was created under the motto "hands on", so that every participant in each machine type had the opportunity to discuss topics from the field that each machine had brought with them in the circle of experts. The event was moderated by Ersä

Service, the instructors of the workshops were product developers and designers from the fields of mechanics and software.

CONSTRUCTIVE EXCHANGE OF EXPERIENCE

Ersä's own service technicians also mingled with the workshop participants and promoted a constructive exchange of experience, so to speak, from the frontend to the backend. The findings were recorded during the final feedback rounds. Additional topics and optimization suggestions are now followed up internally at Ersä. Meetings with service and design are held at regular intervals.

Solutions are gradually distributed to the service technicians and our service partners so that Ersä Service is provided with solution know-how worldwide. The premiere of the IServMM was very well received by the participants – again in two years. We are already looking forward to it. Until then: Hands on, Ersä Service! ■



Microsolder, Ungarn.



Stepan, Austria.



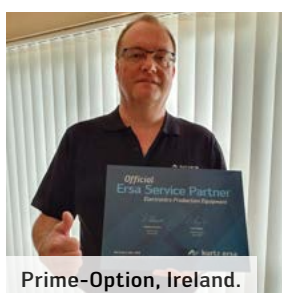
Belmet, Slovenia.



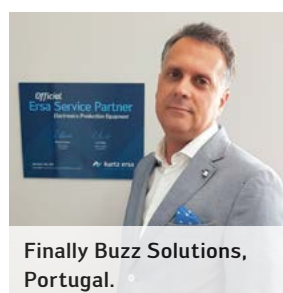
PBTechnik, Poland.



Kurtz Ersä, Inc., America.



Prime-Option, Ireland.



Finally Buzz Solutions, Portugal.



Packtronic, Italia.



EEE, Romania.



1

Highest quality and maximum flexibility thanks to VERSAFLOW 4/55

The Austrian KEBA AG celebrated a special anniversary in 2018 – the company was founded 50 years ago in Linz. Since then, they have been developing and producing control systems and operating solutions for complex automation systems. KEBA AG recently expanded its electronics production by a VERSAFLOW 4/55.

KEBA AG AT A GLANCE

- Founded 1968
- Headquarters in Linz/Austria
- 1.200 employees worldwide
- 253,6 million Euro turnover (31.03.2018)
- Locations in Germany, Romania, Turkey, Czech Republic, South Korea, Italy, USA, China, Japan, Taiwan, Netherlands

KEBA has been simplifying the world of living and working with its solutions since 1968. Numerous awards show that the company claim "Automation by Innovation" is lived. The product range consists of industrial automation, logistics automation, banking automation and energy automation. For example, controls for painting robots or injection moulding machines. With their KeTop terminals, KEBA is the world market leader for mobile operator terminals for teaching or programming robots or systems. KEBA is also a leader in parcel automation – for example with packing stations from DHL Germany. People having bank accounts with a Raiffeisenbank or Commerzbank have most probably already withdrawn or deposited money at KEBA machines. The latest product area is charging stations for electromobility, where KEBA is one of the world's leaders with over 100,000 systems sold.

"KEBA products are not available on the Internet. We develop special solutions for special customers. Close long-term partnerships are the focus – years pass before the

serial production of a controller is launched. The requirements of our customers are our challenge," explains Erwin Schöfer, Plant Manager Electronics Production & Product Assembly at KEBA. KEBA also has a 40-year business relationship with Erska. A milestone in the cooperation was the switch to lead-free technology, in 2005 with an N-WAVE 330 wave soldering machine, in 2006 with a VERSAFLOW B selective soldering machine. Both systems have been in service for more than ten years. "This reliability was the basis on which Erska was chosen for the current project," says Erwin Schöfer.

NEED FOR ACTION: EXPANSION OF THE SELECTIVE LINE

KEBA has been growing continuously since the company was founded – one growth parameter is the number of assembled components: In 2014/15 and 2015/16 there were still 140–150 million assembled components each; at the end of the KEBA fiscal year in April 2019 it were more than 400 mil-

lion – about three times as many! The machine project for the selective soldering system was already being considered in 2015 and realized in 2017. The existing VERSAFLOW B was fully utilized: 3-shift operation, nothing more was possible. An expansion was unavoidable.

The requirements: high soldering quality and significant increase in throughput. Specification for the cycle time: 2–3 min. With this and with selected assemblies, the KEBA engineers travelled to Wertheim. The soldering tests carried out here already showed one was on the right track. Previously, the cycle times for a product were 5–6 minutes. With the installed VERSAFLOW 4/55 with two VERSAFLEX solder modules, these dropped to 2–3 minutes, two to three times faster! “The requested cycle time was quickly achieved in production. We are again working in 1-shift operation and have scope for future growth,” says Erwin Schöfer.

VERSAFLEX: OPTIMUM CYCLE TIMES

Just as diverse as the KEBA product range are the assemblies and PCB panels in electronics production. This results in a wide variety of PCB spacings in the panel. In order to process these economically, another requirement was the automatic program-controlled Y-adjustment of the axes



- 1 A well-rehearsed team: Ersä and KEBA in front of the new VERSAFLOW 4/55.
- 2 No compromises: The optimum parameters for each solder joint can be set in the ERSASOFT 5 machine software.
- 3 The course has been set: The production capacity has been doubled with the new plant.
- 4 KEBA location in Linz.

in the dual solder module. In the course of the project, it became clear that it was not the standard dual solder module that provided the best cycle times, but the individually adjustable VERSAFLEX module with independently acting axes. This provides completely new possibilities for KEBA – depending on the application, PCB panels can be processed in parallel as usual. The asynchronous mode is used for products that are soldered with different nozzle diameters, for example. “The VERSAFLEX modules gave KEBA the flexibility and efficiency they needed in the new selective soldering line,” says Ersä Sales Manager Mark Birl. And KEBA does not have to compromise when it comes to soldering quality either. Delivery included the VERSAFLEX ULTRA software package which allows that each solder joint can be assigned an individual parameter set.

KEBA products are “long-running”, which requires a good basic temperature of the module. “We have therefore integrated an additional preheating module upstream solder module 01 and a further preheating module between solder modules 01 and 02 to keep the assembly at the right temperature,” explains Mark Birl. Such adaptations to customer-specific requirements can be achieved through the modular design of the VERSAFLOW 4/55. In the medium term, the VERSAFLOW will be fully utilized in 2-shift operation. If a third solder module is required – no problem. The lines necessary for energy and data transfer into the third module have already been integrated. One call to Ersä and the system is ready for operation again in two days. ■





1

LITHUANIA'S FLAGSHIP COMPANY RELIES ON Ersa HOTFLOW REFLOW TECHNOLOGY

Teltonika makes IoT easy!

In 1998 Teltonika started as a start-up to make the Internet of Things big – today the Lithuanian company develops and implements smart IoT solutions worldwide. With 1,500 customers and over seven million devices sold, Teltonika has an impressive record after two decades – the backbone is Teltonika electronics manufacturing, actively supported by system supplier Ersa since 2017.

TELTONIKA AT A GLANCE

- Founded 1998
- 750 Employees (Lithuania: 600)
- 59 million Euro turnover (2018)
- Locations: Lithuania, additional sales offices in China, Dubai, India, Indonesia, Canada, Pakistan, Belarus

In a European comparison, Lithuania (2.8 million inhabitants) is in the digital fast lane – with an average download speed of 30.8 Mbit/s, the Lithuanian LTE mobile radio network is among the top ten in Europe. Good conditions for IoT, which is gaining ground worldwide both industrially and privately. Teltonika provides smart solutions for vehicle tracking, person tracking and networks. The breakthrough came with a fleet management system, today Teltonika with its products developed and manufactured in Lithuania sets worldwide market trends in vehicle networking and network solutions. A powerful team of 750 employees (600 in Lithuania) drives the development towards “easy IoT”. In 2018 this led to a turnover of 59 million Euro, ten percent of which was invested in research & development. The Teltonika plans extend far beyond the Baltic States – in addition to a leading position in Europe, the Lithuanians want to open up further markets such as Asia or America. The target for the financial year 2018: 75 million Euro or around 30% growth!

The Teltonika range comprises four business segments: GPS technology, specially developed and produced for fleet management,

car rental companies, taxi companies, commercial vehicles and car or eScooter sharing, networking products such as mobile routers, projects in the field of original design manufacturing (contract manufacturing for other companies on a large scale) as well as extensive EMS services. “IoT is an incredibly creative market – it develops applications that give people time and space for others. And we at Teltonika develop the products that make life easier for the user as ‘easy key to IoT,’” says Simas Rutkauskas. In vehicle tracking, for example, the company relies on on-board diagnostic (OBD) sockets available in all vehicles – firmware updates can thus be initiated digitally without any assembly effort.

MORE OUTPUT WITH MORE MACHINES

Back to Teltonika electronics production: Strategically, the management wants to keep the production team at the same level and generate more output with more machines. Teltonika will increase its workforce in the areas of sales, research & development and technical support. In addition to the existing sales offices in Pakistan and

Dubai, the targeted expansion of the corporate network includes further offices in Chile, India, Canada and Singapore – and additional Teltonika production sites. Everything could be manufactured in Lithuania, but this would lead to problems with import duties and less proximity to customers. “We think it’s clever to raise production here in Lithuania and move it to other countries by copy & paste in order to be close to the customer – this also makes markets like Brazil and Argentina tangible,” says the Teltonika vice president.

PRODUCTIVITY INCREASE OF 25 PERCENT

Teltonika pays particular attention to a high value per hour for each employee – an important productivity factor. Last year, the company’s sales climbed by twelve percent, while productivity increased by a whopping 25 percent! The three installed Ersä HOTFLOW reflow soldering systems (two HOTFLOW 4/20, one HOTFLOW 4/14) certainly contributed to this. With process lengths of 4.4 m and 5.9 m the Ersä HOTFLOWS cover all applications with highest throughput in highest soldering quality.

INITIAL INQUIRY VIA INFO@ERSA.DE

The first contact between Teltonika and Ersä goes back to the beginning of 2017, when plans for expansion were defined in Lithuania – at that time the guarantee date of the existing equipment was exceeded. A Google query was started and Ersä was



1 Vice President Simas Rutkauskas (right) with Ersä General Sales Manager Rainer Krauss (left) and Ersä Area Sales Manager Tobias van Rossem.

2 Simas Rutkauskas, Vice President at Teltonika, in electronics manufacturing in Vilnius, Lithuania.

3 Recent Ersä access in Teltonika manufacturing: Reflow soldering system HOTFLOW 4/14.

quickly the main player in the soldering business. A first request for a reflow oven, which contained the specifications for five Teltonika highrunner products, went digitally to info@ersa.de. Prompt feedback from Ersä sales team, direct communication started in March. The responsible Ersä Area Sales Manager and the Scandinavia representative travelled to Vilnius to specify the project. Another meeting took place in May at the SMT fair – half an hour was enough to close a deal. It was about presumably 15 reflow systems that Teltonika wanted to order in the near future. The first soldering system was already installed in June – Teltonika decided not to visit an Ersä application center.



“If I don’t trust the leading player in the market, who will I trust? In addition, our products are not too complex to manufacture. Nevertheless, our decision was the right one – as our significantly increased productivity rate proves,” says Simas Rutkauskas. In the meantime, three Ersä HOTFLOW reflow soldering systems have been seamlessly integrated into the Teltonika production, and production takes place in two and a half shifts over four days – the machine operators use the fifth day for training or advanced training in order to always be up to date. Wherever Teltonika opens further production sites in the future, the worldwide Ersä sales and service network is happy to provide support! ■



MEASURING SYSTEMS
FOR PROCESS RECORDING,
ANALYSIS AND OPTIMIZATION

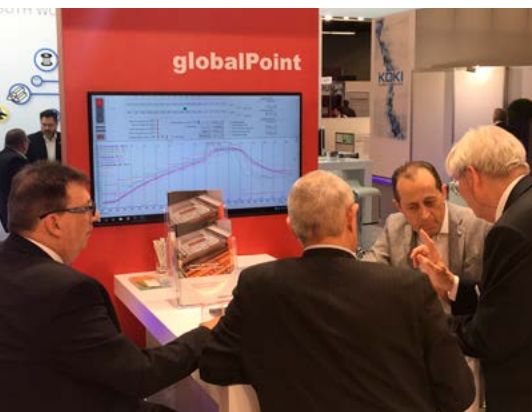
globalPoint shows trade fair presence



As a guarantor for stable thermal processes in electronics manufacturing, globalPoint sets standards with the PTP® – Professional Temperature Profiler and is continuously expanding its customer base at home and abroad as an expert in measurement technology. The participation at the most important US trade fair for electronics manufacturing, APEX in San Diego from 29th to 31st January, was therefore only natural. The current range of temperature, measurement and recording systems was presented and, of course, demonstrated live.

NEW LOOK WITH NEW WEBSITE

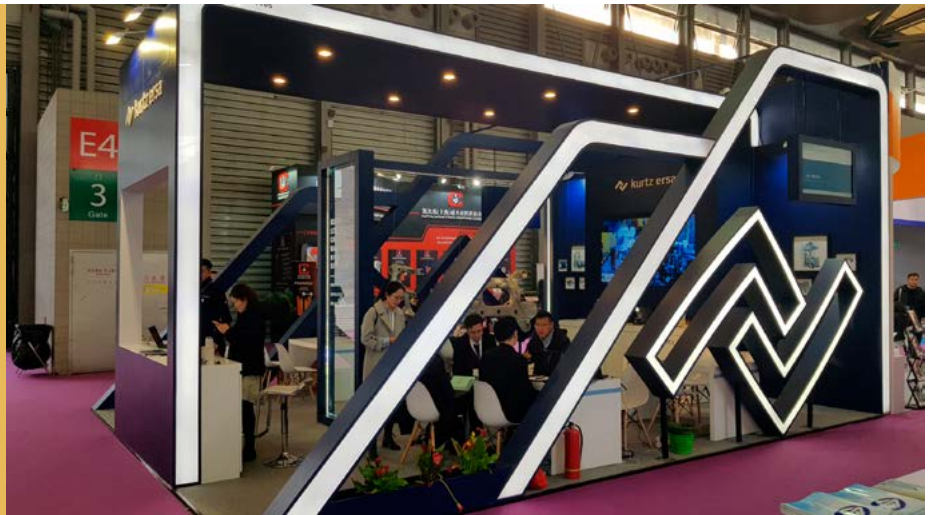
Another successful trade fair appearance was completed by globalPoint at SMTconnect in Nuremberg from 05 to 07 May. In the Middle Franconian metropolis, the company presented itself in a new look with a new web presence and again presented its entire range of temperature, measurement and recording systems for all soldering processes. The key element here is the user-friendly PTP® user software, which is adapted by globalPoint to the customer's requirements every year and made available as a download via the website.



In addition to recording and evaluating classic reflow temperature profiles, the focus is increasingly on measuring systems for wave soldering systems. Especially in the case of complex flat assemblies, as they are soldered in wave soldering machines today, analysis and optimization of process recording are becoming more and more important in order to create optimal temperature profiles.

"The participation of globalPoint in APEX and SMTconnect was very fruitful – we are looking forward to the upcoming trade fairs in Europe and Asia, where we will present our powerful solutions to our customers and interested parties," commented Rainer Krauss on the two trade fair appearances in his function as Managing Director of globalPoint. ■

Kurtz Foundry Machines
stand at the
METAL + METALLURGY
in Shanghai.



KURTZ FOUNDRY MACHINES
AT TRADE FAIR 01

METAL + METALLURGY – Intelligent and Green



China has become the most important market for Kurtz Foundry Machines in recent years. Despite the declining economic situation, demand in China for castings, especially in the field of electromobility, continues to rise. This is also underlined by the fact that China is the country with the largest share of electric cars. Last year, for the first time, there were significantly more than one million electric vehicles. This corresponds to an increase of 64 percent compared to the previous year. All recent projects in China relate to lightweight construction for e-mobility.

It was therefore a matter of course to be on site in Shanghai again this year with a representative trade fair stand and a motivated international team. Once again, our Chinese colleagues designed a great stand that was all about e-mobility and lightweight construction. The focus was on two exhibits for pure electric vehicles – both cast in hollow

casting with sand core on a Kurtz casting machine type AL 18-16 FSC in China. Both the cross beam and the subframe acted as a visitor magnet and attracted numerous visitors. In total, the fair had 86,492 visitors and 1,180 exhibitors this time, making it the largest casting metallurgical event in Asia and the second largest in the world. In addition to the existing customer contacts, which were cultivated, some new contacts could also be made, numerous with applications for e-mobility.

Interesting for Kurtz was also the visit of a prospective customer from Turkey, with whom concrete projects were discussed. "Lightweight construction in low pressure – Kurtz is now the first address for this application in Asia as well. We want to further expand this claim," said Lothar Hartmann, Head of Kurtz Foundry Machinery Profit Center, at the end of the four days of the fair. ■





KURTZ FOUNDRY MACHINES
AT TRADE FAIR 02

Best in class performance at GIFA 2019 – Kurtz Foundry Machines stand out in Dusseldorf

After months of preparation, the Kurtz Foundry Machines made a successful appearance in the Rhine metropolis: with two impressive machine exhibits, a top presentation of reference parts and a new IIoT solution in the stand's center, Kurtz took part in the 14th edition of the world's leading foundry trade fair.

Under the motto **SOLUTIONS FOR THE BEST – BEST IN CLASS PERFORMANCE BY KURTZ**, the trade visitors could expect more – and that for many good reasons. GIFA has always been a trade fair for the foundry industry with focus on process technologies. It is not surprising that the Kurtz Foundry Machines came up with one of their most innovative models for the low-pressure casting process.

The visitors were amazed by the extremely powerful hydraulics and the high clamping force of 54 t with a simultaneous high opening force of 100 t. Thanks to an inviting stand construction concept with a spacious balcony, the Kurtz AL 28-18-18 FSC could also be assessed from the first floor. The machine impressed the trade visitor with features such as a quick-change and quick clamping system for permanent moulds and a new vacuum system for venting and core gas extraction.



Kurtz at
GIFA 2019



Voices about
GIFA 2019

EXTREMELY FAST AND UNBELIEVABLE QUIET

The second highlight of the Kurtz stand was Kurtz's fast, quiet giant: a new trimming press with sliding-tilting table. The Kurtz KPS 3000 / 25-12 SKT – under positive pressure and power – impressed the trade visitors with its high speed, which results in a remarkable 20 % reduction in cycle time, and with its extremely reduced noise level.

Press and machine noise is reduced to below 72/75 dB(A). After five excellently mastered days at the fair, the press did embark on its journey to its new owner.

delegation from Asia, who visited Kurtz as part of the VDMA tour. Lothar Hartmann, General Manager Business Unit Foundry Machines, was extremely satisfied with Kurtz's appearance at the trade fair: "Our technologies are the right ones for current and new applications such as engine blocks, chassis and structural parts in lightweight construction and for e-mobility.

Numerous discussions with customers operating worldwide proved it. GIFA, the most important trade fair for Kurtz Foundry Machines, confirms that we are undoubtedly on the right track. We are proud of our products, our customers and our team." ■

GREAT INTEREST IN INDUSTRIAL IOT

It is not only in mechanical engineering that Kurtz is able to shine: The Kurtz POWER-Board was the heart of the exhibition stand. The POWERBoard, a scalable secure solution for the Industrial Internet of Things (IIoT) provides essential productivity increases and Overall Equipment Effectiveness (OEE) through networking and correct data handling. Thanks to the cloud with access from any location in the world.

WORLDWIDE NOT AN EMPTY PHRASE

With an international sales team consisting of employees from the headquarters in Kreuzwertheim and China as well as sales representatives from North America, Spain and Turkey, GIFA could only be successful. The numerous reference parts, which were suspended and generously illuminated in a frame, were an excellent way of getting discussions started. The parts were used to explain and discuss the needs of the international customers. The stand team has been particularly pleased by the visit of a

- 1 Kurtz presented its new products on a floor area of almost 200 m². In live operation: the Kurtz KPS 3000 / 25-12 SKT.
- 2 An excellent example of Kurtz's leading role in low-pressure die casting: the Kurtz AL 28-18-18.
- 3 Visitor attraction and starting point for dozens of conversations: Reference parts in an illuminated frame.
- 4 Battery housing vs. engine block: Lightweight construction and e-mobility were main topics at the Kurtz stand.
- 5 SOLUTIONS FOR THE BEST: The Kurtz POWERBoard is Kurtz's new Industrial IoT solution.





PIONEER IN
E-MOBILITY

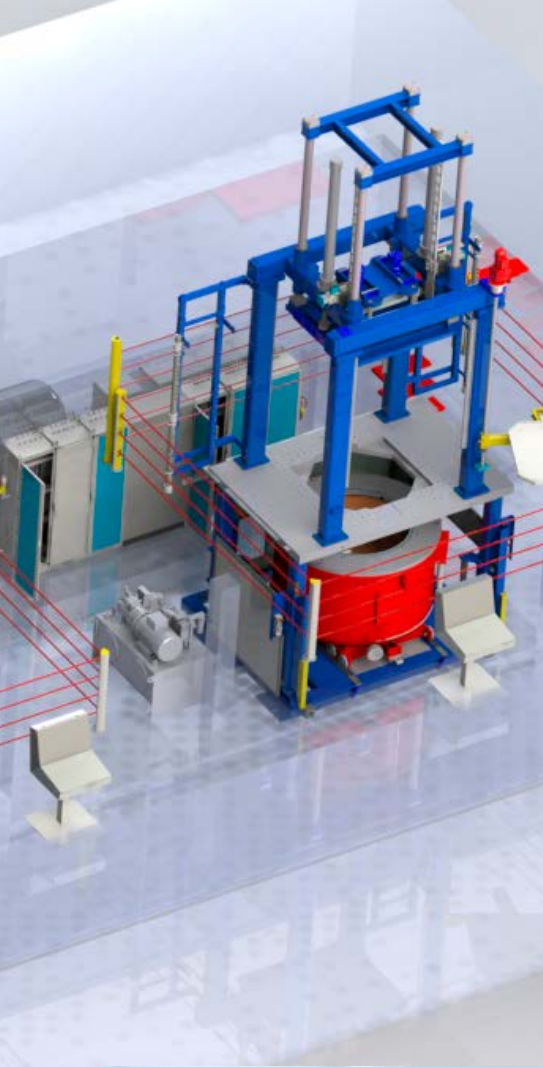
China goes green!

Being a high-tech company, Ningbo Jianxin Huayi Aluminium Industry Co. Ltd. develops and produces castings for well-known Chinese and international automobile manufacturers. Ningbo Jianxin Huayi Aluminium Industry Co. Ltd. is a subsidiary of JIANXIN ZHAO's Group based in Ningbo, Eastern China, with a current production area of around 12,000 m².

With the decision to further expand the production of aluminium castings, the production area was extended to 99,000 m². In this context, Ningbo Jianxin Huayi Aluminium Industry Co. Ltd. has also decided to broaden its portfolio with low-pressure casting. As a first step, the company has invested in an automated Kurtz low-pressure casting line with three AL 22-17 FSC casting machines for the production of aluminium subframes. The first phase will have a capacity of 200,000 castings per year and is scheduled for completion by the end of 2019. In the second phase, a capacity of 800,000 sets of subframes is planned by 2025.

Last year, more than five million electric cars were registered worldwide for the first time. Approximately half of them are in China. In terms of e-mobility, China is thus a great leap ahead of the rest of the world. As early as 2025, one fifth of all vehicles sold in the People's Republic will be electric. Ningbo Jianxin Huayi Aluminium Industry Co. Ltd. is helping to ensure that China receives the cast parts it needs for environmentally friendly e-mobility for the growing market.

Ningbo Jianxin Huayi Aluminium Industry Co. Ltd. focuses on frames with and without cores – very demanding structural parts.



Future production area of Ningbo Jianxin Huayi Aluminium Industry Co. Ltd.

Thanks to Kurtz's good reputation and technological leadership, Ningbo Jianxin Huayi Aluminium Industry Co. Ltd. has also chosen Kurtz as its partner.

AL 22-17 FSC: EXCELLENT EQUIPMENT FOR FLEXIBLE USE

A particular challenging requirement was that large structural parts should be cast two-fold with a core. The way to the solution was demanding, but could be realized thanks to an excellent equipped and flexible Kurtz low-pressure casting machine type AL 22-17 FSC.

In addition to accommodating the large die with a weight of approx. ten tons, the multiple riser tube system also had to be accommodated in the low-pressure furnace. Eight riser tubes are in use in one furnace with a capacity of 2,800 kg. The gas produced by the large sand cores and their volumes is sucked out of the mould by the Kurtz core gas extraction system. Sand cores in the casting require extremely precise pressure control, which can "beat" the balance and accuracy between filling speed for thin castings, feed pressure and penetration of the sand cores. The "heart of Kurtz" – the pressure control – masters this task and is a guarantor for quality.

Of course, the casting machines are also equipped with all other key factors such as controlled water cooling and multi-coupling

in order to achieve high casting quality with short cycle times. In addition to the proven machine technology, Kurtz was also the contact for the casting process. In close cooperation with the toolmaker, Kurtz also provided strong support in casting issues such as the gating system and cooling. Not only the acceptance of the casting machines took place at Kurtz, but also the core boxes and moulds were accepted by Ningbo Jianxin Huayi Aluminium Industry Co. Ltd. in real condition prior to delivery to China.

The partnership between Ningbo Jianxin Huayi Aluminium Industry Co. Ltd., Kurtz China, Kurtz Germany and the toolmaker made it possible to deliver a perfect package. We are currently on the verge of the first casting in China, which we are already looking forward to with anticipation. ■



The Kurtz AL 22-17 FSC offers sufficient space for the use of tools for large structural parts in double cavity molds.



1

PARTICLE FOAM INDUSTRY PROFITS FROM COOPERATION BETWEEN
T. MICHEL FORMENBAU GMBH & CO. KG AND KURTZ GMBH

Open for new applications!

T. Michel Formenbau GmbH & Co. KG and Kurtz GmbH are providing the particle foam processing industry with important impulses through their "open innovation" cooperation. An essential success factor for the development platform is a Kurtz Moulding Machine specially configured for the requirements, with which the Rhineland-Palatinate company T. Michel Formenbau GmbH & Co. KG, a specialist in particle foaming tools and process and component development, is successfully advancing various development projects to series maturity.

"We have received far more than a standard machine from the world market leader in particle foam processing: Kurtz GmbH has perfectly implemented our wishes from the specifications – for example regarding press

table, load, accuracy, control and connection to the laboratory equipment. In the end, we have created a super-efficient system that opens up completely new possibilities and is very well received by our customers," says Thorsten Michel.

The T. Michel Managing Director was also convinced by the flexibility of the automatic moulding machine – with an operating pressure of up to 5 bar, all types of EPP can be processed by in-mould skinning, skin moulding or insert moulding. Further advantages: optimised valve technology for exact reproducibility, fast mould change, maximum freedom in process engineering. Always combined with the shortest cycle times, lowest energy consumption and long maintenance intervals.

- 1** Three-part steering wheel assembly made of EPP, PP and K-Fix element.
- 2** Exemplary handling of which surfaces T. Michel generates from a tool.
- 3** View into the TecCenter at T. Michel Formenbau GmbH & Co. KG – in the foreground a mould for a side panel, in the background the Kurtz Moulding Machine.
- 4** Location of T. Michel Formenbau GmbH & Co. KG in Lautert.



2



3



4

The application of special laser textures to tool surfaces in reproducible top quality is also becoming increasingly popular. This is where T. Michel Formenbau GmbH & Co. KG has developed a unique selling proposition. "Starting in 2010, the finishing of surfaces by laser was added. Within three years we have succeeded in changing a popcorn surface in such a way that it can also be used as a design element – in combination with the Kurtz Machine we achieve absolute top results here," says T. Michel boss Thorsten Michel.

There are no residues in the process, which has been refined down to the smallest detail, the particle foam does not get stuck and the demoulding process functions smoothly. The finished products are lightweight, insulating, crash absorbing and, thanks to a refined surface, also an optical highlight – precisely the requirements that have long been an absolute must in automotive engineering and even more so in electromobility. Several automotive development projects are about to go into production. Each tool developed in-house contains complex process details, including static calculations, material validation, surface scratch tests, measurement reports and declarations of no objection.

The "open innovation" from the cooperation of T. Michel Formenbau GmbH & Co. KG and Kurtz GmbH will continue to be the lightweight and stable foundation for optimally shaping existing and future plastics. In Germany, Europe or worldwide. ■



THERMO FOAMER

It's the surface that counts!

Particle foam components are currently used in the automotive sector for technical applications, but are usually "hidden" due to the modest surface quality. These include, for example, shock absorbers, rear seats and sun visors.

If it were possible to combine the advantageous properties such as low weight, good insulation and high energy absorption with a high surface quality, this would open up new areas of application in lightweight construction and make them extremely attractive for use in automobiles. The THERMO FOAMER, a specially developed particle foam machine from Kurtz, opens up completely new avenues. Thanks to the special process control, moulded parts with outstanding surface quality can be produced reproducibly – and even within a narrow tolerance window. The aim is to use the EPP moulded parts as visible parts.

CREATION OF A SPECIAL EPP PARTIAL STRUCTURE

Kurtz relies on the creation of a special EPP partial structure, a closed cooling system and significantly reduced steam consumption for welding the EPP beads. An injection moulder is now also in a position to produce EPP moulded parts, as it is not designed for the complex production structures of a wet steam process with boiler house, central steam supply etc. The EPP moulded parts can be produced by a single injection moulder. The reduced steam quantity is provided by a small high-speed steam generator. Compared to a conventional automatic moulding machine, the volume of the mould of a THERMO FOAMER is reduced by 88%. The mould and the associated cavities are connected to the closed cooling system. During the stabilization phase of the foam, the cavities are only cooled down to the bare essentials, while the mould itself remains warm. This reduces heating and cooling losses to a minimum.

COMBINATION OF PARTICLE FOAM AND PLASTIC TO FORM A COHESIVE SUBSTANCE

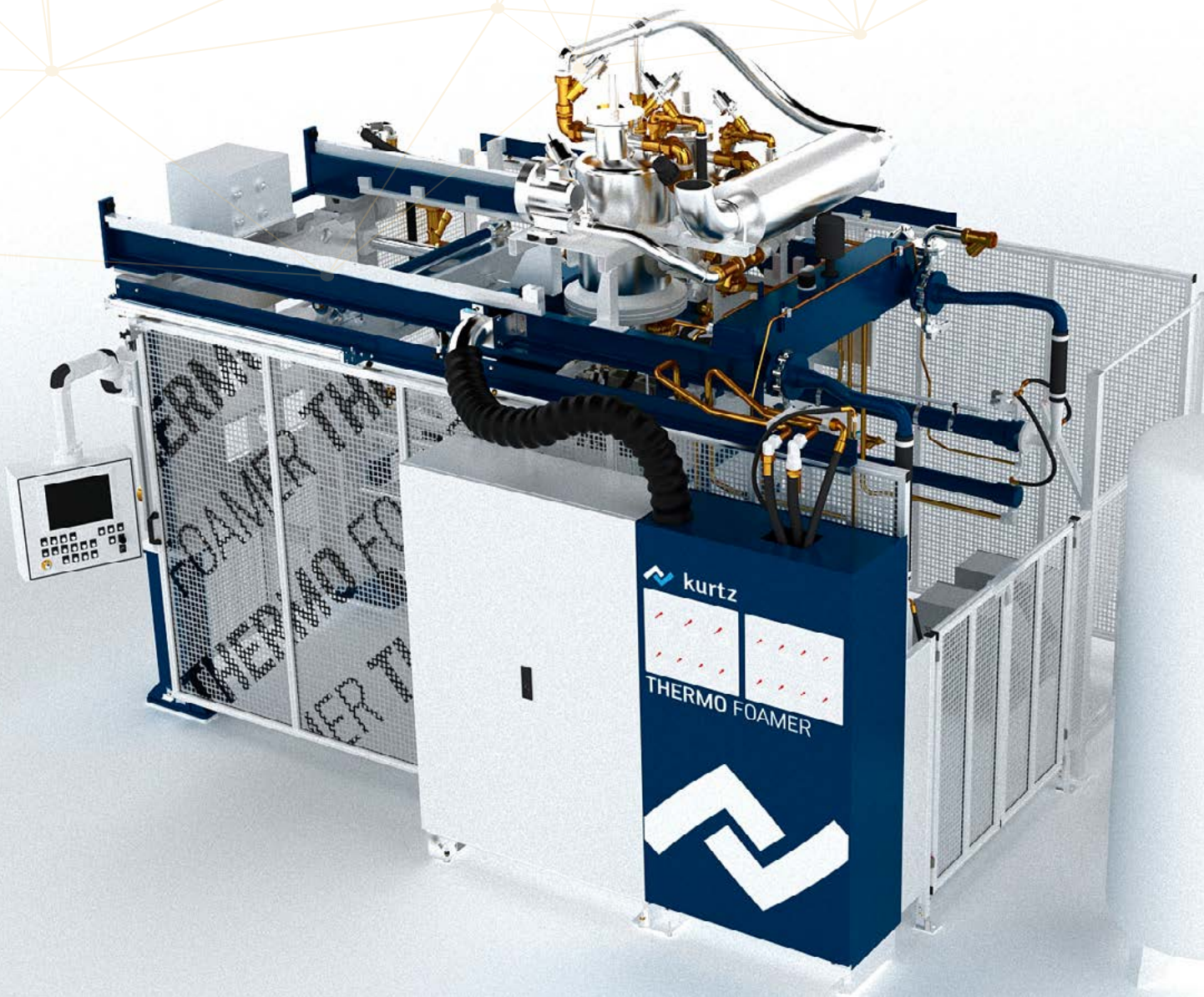
Due to the EPP partial structure, the moulded part can be overmoulded in an injection moulding machine after the foaming process, so that a material-locking combination of particle foam and plastic is produced. This allows the advantages of the lightweight foam with the higher strength of injection moulding to be optimally utilized.

If special surface technologies are used on the mould, the high demands on surface structure and dimensional accuracy in the automotive sector are fully met. There are almost no limits to the possibilities of laser textured tools with regard to structures. Various grainings such as leather, woven carbon braiding, brushed or 3D structures are possible. Whether door side panels, components in the cockpit, panels for A-pillars in vehicles or saddles for two-wheelers, medical devices or electronic housings – the potential for applications of EPP moulded parts is immensely

high. EPP moulded parts with now available high surface quality in the visible area have a significant advantage in terms of weight, especially for applications in lightweight construction. With the THERMO FOAMER, Kurtz Ersä has added a machine to its product portfolio to produce moulded parts for lighter vehicles with lower emissions of pollutants, thereby also making a contribution to achieving climate targets. ■



Moulding Machines





Multiple protection through EPS packaging

Even at the lowest point on earth – the 11,000 m deep Mariana Trench in the western Pacific Ocean – disposable plastic can be detected. The EU Parliament in Strasbourg reacted by banning disposable plastics in order to protect nature and people. Despite all justified criticism of disposable plastics – there are many sensible areas of application for plastics within closed recycling cycles.

Plastics in general – including EPS/Styrofoam – have recently come increasingly under fire from criticism. Environmental pollution, marine pollution, microplastics, lack of recycling and low recycling rates of plastics were the main points of criticism. With the “EU Plastic Strategy”, an EU action programme was launched at the turn of the year with clear targets for the better reuse of used plastics. Expanded Polystyrene (EPS) is already a highly separately collected and recycled plastic. The obligation to take back packaging when purchasing household appliances, for example, and

separate collection points specifically for polystyrene packaging enable a recycling rate of almost 50 % of all EPS packaging.

LOW CONSUMPTION, HIGH PROTECTIVE EFFECT

EPS is always easily visible as foam due to its large volume. However, the amount of plastic used is comparatively low due to the low density of the foam. This means: low plastic consumption for many useful products. The enormous protective effect of EPS packaging is often neglected in the discussion. Significantly more food would spoil on its way to the customer if it were no longer transported in well insulating EPS packaging.

Consider the overall environmental impact if the damage rate during the transport of household appliances without EPS protective packaging were to increase drastically. Replacement appliances would have to be

manufactured and shipped additionally, and the damaged appliances would end up in the garbage. EPS packaging indirectly provides very good services in resource conservation and environmental protection. Biodegradable, “green” plastics decompose in the wild only under special conditions and are not a real alternative to EPS – significantly lower protective effect, dubious decomposition behaviour and a significantly higher price are often the knockout criterion.

CLOSED RECYCLING CYCLE

Nevertheless, we can all help to ensure that “our” EPS will continue to circulate in the market for a long time to come: Collect all EPS packaging separately and return it to the collection points and take-back points. Everything is recycled so that the cycle is closed to new products from recycled EPS. Circular economy. EPS can do this without any problems – and we can all contribute to it! ■



CONLINE GMBH

Let's automate industry!

No matter which industry sector you take a closer look at – whoever succeeds in intelligently integrating innovative automation solutions today will be at the forefront of the competition or will extend the lead in the market. With professional solutions for handling soldering machines as well as foam and foundry machines, the Conline GmbH team has already optimized numerous productions at home and abroad through automation integration – the results are: more output, highest precision, shortest cycle times!

In the field of plant automation, around 35 employees are currently working at full speed to supplement the Ersä and Kurtz machines established on the market with partly standardised, partly project-specific automation solutions. The customer thus receives the desired "System Solution by Kurtz Ersä" from a single source.

Projects in the area of "Research & Development" are developed in the milestone release process on the basis of customer targets, from the first PoC sample to the final series status (PoC short for "Proof of Concept" or feasibility study). The product areas with additional requirements from the automation sector are manifold, for example peripheral transport systems for soldering material transport, fully automatic THT component assembly units, system solutions for optical worker support in the production environment, process-accompanying, product-specific automated optical tests in test cells as well as "pick & place" solutions in moulded part handling.

Colleagues from Vision Development teach robots how to see, and robotics experts take care of path planning. The aim is always to ensure that the robot systems (both linear and multi-axis robots) always perform their tasks in the most efficient way in the production environment. Conline's PLC, high-level language and GUI (Graphical User

Interface) programmers create and implement programs and a visually appealing user interface, so that Kurtz Ersä customers can intuitively operate their "Production Systems I4.0" themselves after a brief introduction.

Conline Automation's experts also provide project management services for larger and more complex automation projects. Inhouse customer acceptance of a complete system is also possible on the premises of Conline GmbH. "As know-how carriers in this dynamic environment, our employees are our most important success factor for the technical solutions and interfaces to the customer – here we have many years of cross-sector experience that flows into our customer solutions," emphasizes Conline Managing Director Ralph Knecht. ■



REOPENING OF THE HAMMERMUSEUM

240 YEARS OF LIVING HISTORY!

After five exciting and successful years with well over 26,000 visitors from home and abroad, the Hammermuseum would like to thank all fans and friends of the iron hammer with a new, attractive exhibition. Numerous "hands on" and multimedia stations convey to the visitors our ardent passion for living technology.

When the Hammermuseum opened its doors in 2014 to celebrate the 235th anniversary of the company's founding, Kurtz Ersa made a valuable cultural contribution to the Main and Tauber region. The Hammermuseum and the historic iron hammer are by no means silent witnesses of the industrial beginnings in the Spessart, which were preserved at the place of origin of the Kurtz Ersa Group for reasons of monument protection. Rather, they are living proof of production techniques from earlier centuries.

Well over 26,000 visitors from all over the world have come since the opening of the museum to let themselves be carried away into the depths of history – and last but not least to watch the big throwing hammer at work, which with the elemental force of a ton of force crashes down on the glowing iron and forces it into shape. After a long preparation and a two-week break, the

Hammermuseum has been presenting a new exhibition since mid-July 2019.

COMPANY HISTORY FULL OF SURPRISES

Numerous multimedia stations with interesting and latest historical findings invite you to immerse yourself in the history of the Kurtz Ersa Group. Contemporary witnesses from past times tell of their professional relationship with Kurtz Ersa, but also of their childhood, which they – like many other employee families – spent on the premises of the iron hammer.

On an interactive world map, the guests experience a revolutionary history of internationalisation that was far ahead of its time. They can smile about one or two anecdotes, because the history of the company



1

- 1 CEO Rainer Kurtz during his speech on the occasion of the reopening of the Hammermuseum in Hasloch.
- 2 The 240-year history of the company becomes tangible on the timeline.
- 3 Now it's time to jazz: Heye's Society at the reopening of the Hammermuseum.
- 4 Donation to Aktion Regenbogen – board member Michael Bannwarth (left) receives the cheque from CEO Rainer Kurtz.



2



3

is full of surprises. Numerous new exhibits impressively visualize the milestones in the development of the Kurtz Ersa Group and its evolutionary development process.

At the end of the new exhibition, the three representatives of the sixth generation of the Kurtz family, the foundation directors and shareholders will also have their say. They talk about the importance of the family for the longterm and sustainable success of a family business, about tradition and regional ties.

"Nowhere else can the fascination for living technology in harmony with nature and the production processes be conveyed better than at the place of origin in Hasloch, where everything began in 1779 with the construction of the iron hammer," said CEO Rainer Kurtz at the reopening on July 07. ■



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Worldwide Presence

Germany

Kurtz Ersä Group
Wiebelbach
info@kurtzersa.de

Ersa GmbH
Wertheim
info@ersa.de

Kurtz GmbH
Wiebelbach
info@kurtz.de

Conline GmbH
Wertheim
conline@kurtzersa.de

globalPoint ICS GmbH & Co. KG
globalPoint@kurtzersa.de

Kurtz Ersä Logistik GmbH
Wiebelbach
info@kurtzersa.de

China

Kurtz Ersä Asia Ltd.
asia@kurtzersa.com

Kurtz Shanghai Ltd.
info-ksl@kurtzersa.com

Kurtz Zhuhai Manufacturing Ltd.
info-kzm@kurtzersa.com

Ersa Asia Pacific
info-eap@kurtzersa.com

Ersa Shanghai, China
info-esh@kurtzersa.com

France

Kurtz France S.A.R.L.
info-kfr@kurtzersa.com

Ersa France, Frankreich
info-efr@kurtzersa.com

Russia

000 Kurtz Ost
info-kru@kurtzersa.com

USA

Kurtz Ersä, Inc.
usa@kurtzersa.com

Mexico

Kurtz Ersä Mexico, S.A. DE C.V.
info-kmx@kurtzersa.com

Korea

Ersa Korea, Korea
kmc@kmckr.co.kr

Vietnam

Ersa Vietnam
info-kev@kurtzersa.com



Technology fan? Passionate interest in industrial history?

The story of Kurtz Ersä comes to life in the HAMMERMUSEUM – let yourself be infected with the enthusiasm for technology that still marks us out in the 21st century.

We're looking forward to your visit!

Kurtz Ersä HAMMERMUSEUM

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www.kurtzersa-museum.com

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Publisher

Kurtz Holding GmbH & Co.
Beteiligungs KG
Frankenstr. 2
97892 Kreuzwertheim

Phone +49 9342 807-0
Fax +49 9342 807-404
info@kurtzersa.de
www.kurtzersa.com

Responsible

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Rainer Kurtz
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