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Kurtz Ersa Magazine

For Customers and Business Partners of Kurtz Ersa Corporation

OVERCOMING CHALLENGES.

DRIVEN BY KURTZ ERSA.

GLOBAL. AHEAD. SUSTAINABLE.

kurtz ersa

Overcoming challenges together

Ralph Knecht,
CEO of the Kurtz Ersa Corporation

We look back on an eventful and exciting second half of the year. Despite the declining significance of the Corona pandemic, the high level of tension in the markets remains tangible. The political events in Ukraine and the tense situation on the procurement markets are also creating a high level of uncertainty. This is compounded by another shortage: that of well-trained workers who are willing to move and take on new tasks. We are doing a lot to ensure that our employees remain our first choice and an attractive employer in the future – as documented by the BestPersAward 2022 we received this year.

We are facing the current challenges and fortunately Kurtz Ersa was able to stand out from the trend in these difficult times and continue to grow. We are working at full speed to ensure the ability to deliver despite the shortage of parts. Inventories have been built up in a targeted manner and the expansion for the central warehouse inaugurated four years ago is already underway; the investment volume here amounts to around 10 million Euro. The all-important factor, however, is the high motivation of the Kurtz Ersa team, thanks to which we will be able to post positive business development in fiscal year 2023 as well, following the record in 2022. You can read more reasons for this in this magazine.

At the leading plastics trade fair in Düsseldorf, Kurtz presented its RF technology, which contributes significantly to saving energy, water and CO_2 in the plastics industry and sustainably optimizes processes. For this, we were awarded the IKU Innovation Prize for Climate and Environment in Berlin, which we were very pleased about. Our Alpha 140 3D printer was also very well received at Formnext, and for the first time we were able to present a large-format component of our Flying Ray, the next generation of our 3D printers.

It is also pleasing to see that our innovations and services in the field of Industry 4.0, such as Kurtz Ersa Connect, enable us to offer overarching solutions for our customers in the electronics industry. Recently, Ersa presented an absolute world first: the world´s first hand soldering station with which hand soldering processes in electronics manufacturing can be improved and seamlessly documented. And this in the year of the 25th anniversary of the Rework division – two reasons to celebrate at once. It is also with some pride that we present a new era in reflow soldering: the HOTFLOW THREE.

The cooperation with Schiller Automation GmbH & Co. KG also looks back on a successful year one. The processes of merging are in full swing and we are receiving positive feedback from our customers regarding the larger joint range of services. The next steps are in the direction of international growth with the aim of being able to offer automation solutions in a global context.

Finally, a very important topic: Of course, we continue to vigorously pursue our sustainability offensive "GoGreen250" launched in 2020. The roofs of Kurtz Ersa are successively being equipped with photovoltaic systems and we are working on various measures to consistently save electricity, natural gas and water. The positive effects can be measured in several places and the overall result is impressive: Projections for 2022 show that we will probably reduce CO_2 emissions (Scope 1 and 2) at our German sites by almost 50 % compared with the previous year.

We hope you enjoy reading this magazine. We would like to thank all our customers and business partners for their excellent cooperation, even under difficult conditions, and are confident that we will be just as successful with you next year!

In good old tradition, I would also like to extend a Glück auf!

Your Ralph Knecht

ESG rating in bronze achieved

Kurtz Ersa is on track to achieve CO_2 neutrality by 2029 and has taken numerous measures towards sustainability in recent years: The switch to green electricity has been made. The construction of photovoltaic systems is in full swing and the switch to a lower CO_2 vehicle fleet is being consistently implemented.

ESG stands for Environment, Social and Governance and measures the voluntary contribution of companies to sustainable development that goes beyond legal requirements. In the first ESG rating, the Kurtz Ersa Group achieved a bronze medal at the first attempt. Kurtz Ersa received 48 out of 100 points in the overall evaluation of four topic areas. With 60 points, the rating in the "Environment" category was better than in the industry. This topic area evaluates, among other things, energy and water consumption, waste volume in the company, and associated guidelines and documentation. Kurtz Ersa is also above average in "Labor and human rights". This category includes, for example, training offered, frequency and severity of accidents, and diversity in the workplace.

Kurtz Ersa sees itself as a pioneer in sustainable corporate management and would like to continue its commitment well beyond the legal framework in the future. The achieved rating is a pleasing result and proves that we have chosen the right sustainability strategy with the goal "CO_2-free by 2029"!

Further examples of our sustainable actions can be found in the current Kurtz Ersa Sustainability Report 2021.

Sustainable growth with combined forces!

›› Indonesia, dream beaches and tourist magnet – For a long time now, this has not been the only reason for interest in the Asia-Pacific region. The island of Bali recently hosted the G20 summit of the leading industrialized and emerging nations. In this context, Chancellor Olaf Scholz also visited Vietnam and Singapore and offered closer economic cooperation to the countries of Asia and the Pacific region, saying that the Asia-Pacific region is "much more than China"[1]. He went on to say that "our strategy also means that we want to diversify our supply chains"[2] In this way, the German chancellor underscored the economic interest in Southeast Asia and the global trend toward diversification of supply chains.

As a global player, Kurtz Ersa recognized the development potential and economic growth at a very early stage and continuously invested in Southeast Asia´s business development. In 2018, Kurtz Ersa Vietnam was established to directly serve expanding key accounts with service and sales consulting. Kurtz Ersa maintains its own demo and application center in Ho Chi Minh City, equipped with both Kurtz and Ersa machines. "Looking back, our Vietnam strategy has been a complete success and we will follow this example by expanding our activities to the entire Southeast Asian region," explains Bernd Schenker, President Kurtz Ersa Asia. Kurtz Ersa Vietnam proved its full viability in the

Kurtz Ersa Vietnam 2018


25 years of partnership with Long Shine

following years, after leading high-tech companies from Taiwan, Korea, Japan, China, but also from the USA and Europe relocated production facilities to Vietnam on a large scale in the past years.

Especially during the years of the Covid pandemic, local presence was a decisive factor for our customers. The migration of alternative production sites to the SAE region will certainly increase in the coming years. Plans are already underway to establish additional application centers in Northern Vietnam and Thailand.

The geopolitical trend towards a diversified supply chain is strengthening economic growth throughout Southeast Asia. In order to meet the increased demand, the staff in Service and Sales has also been continuously expanded and now includes twelve motivated Kurtz Ersa employees. Especially in the area of service and process support, the team focuses on supporting the numerous key accounts and thus forms the backbone of the entire Kurtz Ersa network. The large number of countries and, as a result, numerous jurisdictions with different import and customs regulations make it essential to also cooperate with local partners.

Sustainable growth with combined forces

is the slogan for the annual Kurtz Ersa Asia Sales Meeting. "We have concentrated a clear vision for our successful Southeast Asia strategy concisely in this slogan," explains Ulrich Dosch, Manager Business Development. All Kurtz Ersa representatives and distributors from Southeast Asia met in Clark, Philippines for the multi-day meeting. Unfortunately, due to travel restrictions, none of the 300 Kurtz Ersa employees working in China were able to attend, but were integrated through live video calls to Shanghai and were worthily represented in particular by the plant manager of Kurtz Zhuhai Manufacturing, Sam Ho.

The sustainability of Kurtz Ersa business relations is particularly distinguished by the honor for the 25-year successful and loyal partnership with Long Shine Equipment & Supplies Pte. Ltd. Singapore. Kurtz Ersa is also optimistic about the gratifying growth in the Philippines, as RNM Dynamics (Phils.) Incorporated, a strong local partner, has been added to the Kurtz Ersa Sales and Service Network. Of course, teambuilding was not to be neglected at the first face-to-face meeting after three years. The traditional Filipino means of transport (jeepney) was used with much joy and enthusiasm. A jeepney ride breaks every ice, and not just because of the temperatures …

1 Deutsche Welle www.dw.com/de/scholz-fordert-von-china-wirkliche-marktöffnung/a-63747220
2 Pressekonferenz von Bundeskanzler Scholz und Premierminister Lee Hsien Loong zum Besuch des Bundeskanzlers in der Republik Singapur am 14. November 2022 in Singapur. www.bundesregierung.de/breg-de/aktuelles/pressekonferenz-von-bundeskanzler-scholz-und-premierminister-lee-hsien-loong-zum-besuch-des-bundeskanzlers-in-der-republik-singapur-am-14-november-2022-in-singapur-2142870

Start of cooperation with RNM for the Philippine market

Team spirit with joint jeepney (modified truck used as public transport)

Ceremonial groundbreaking for expansion of Kurtz Ersa logistics center

Barely 300 m away from the group headquarters, CEO Ralph Knecht welcomed the guests to the groundbreaking ceremony for the expansion of the Kurtz Ersa Central Warehouse on November 8, 2022. Among others, shareholders, advisory board members, mayor Klaus Thoma, representatives of the local press and the group's internal project team were present at Frankenstraße 14. Also present were companies involved in the expansion, first and foremost Riedel Bau from Schweinfurt and the executing architectural firm Menig & Partner from Rottendorf near Würzburg.

"With the groundbreaking ceremony today, we are laying the foundation stone for the expansion of our fully automated central warehouse. The central warehouse, which was inaugurated four years ago, is now bursting at the seams. The positive business development on the one hand and the increasing parts shortage on the other hand simply make it necessary to keep more parts in stock and have them directly available," said Ralph Knecht, who also expressly thanked all shareholders and the advisory board for financing the expansion.

Mayor Klaus Thoma emphasized the quick and uncomplicated implementation of the project: "Success stories are not written on paper, but implemented in practice, and the Kurtz Ersa company is a prime example of this. I have always been able to fully rely on the Kurtz family and the Kurtz Ersa company in all projects and I am very pleased that the company is consistently committed to the location." Today, around 60 employees work in the central warehouse in two shifts and move around 4,000 outgoing items per day. There are currently around 34,000 items in stock. The total investment volume amounts to around 10 million Euro.

The sustainability aspect also plays a major role in the expansion. The planning of a PV system on the newly built hall roof goes hand in hand with the planning of four car charging points for electric mobility with the possibility of a retrofit for truck connection. In addition, a cistern with a capacity of 45 m³ will be installed for rainwater storage and drainage.

Construction expansion in figures:

- Construction period: 24.10.2022 to 31.07.2023
- Extension of the existing building by 66 m to the south
- Additional floor space of 3,300 m²
- Expansion of the existing wide aisle warehouse by 140 % to 7,900 Europlate parking spaces
- 50 % of the expansion area serves as a buffer; floor designed accordingly to implement further automated storage technology
- Connection of a 730 m² open area to the material flow by installing a 2.5 ton elevator
- Expansion of the automatic small parts warehouse by 50 % to 46,000 bin storage locations; connection of three additional state-of-the-art pick workstations to increase the max. output capacity by 75 %
- Implementation of three additional storage lifts with a storage area capacity of 600 m²

Kurtz Ersa wins ***BestPersAward 2022***

Machine builder honored for best human resources work in SMEs

After receiving awards in 2016 and 2019, Kurtz Ersa´s HR work was awarded the overall victory for "Best HR work in medium-sized companies 2021/22" at this year´s BestPersAward. Kurtz Ersa was also victorious in the subcategories HR Strategy & Vision, Recruiting and HR Personnel Controlling. The BestPers certificate is an independent seal of quality that honors exemplary and forward-looking HR work in medium-sized companies.

Every three years, the BestPersAward is an employer competition aimed at small and medium-sized companies (10 to 2,500 employees) that do not belong to a corporate group, operate independently and are based in Germany, Austria or Switzerland. For 28 years now, the HR work of medium-sized companies has been comprehensively evaluated. As a university-based competition, the BestPersAward is independent, science-based, competence-related and follows current developments in the fields of human resources and people management. Strict standards apply to the awarding of the certificate – only those companies that perform solid, modern HR work over several years have a chance of winning the coveted BestPers certificate. In order to participate in the award, Kurtz Ersa´s human resources managers were called upon to compete in a challenging participant environment in terms of human resources work and people management. Univ.-Prof. Dr. Volker Stein, Professor of Human Resource Management at the University of Siegen and organizer of the BestPersAward, then conducted a complex scientific analysis with regard to professionalism and future viability of human resource management before the final winners were determined by an expert jury of human resource practitioners and scientists.

Quadruple honored at the BestPersAward 2022: the CHR team of the Kurtz Ersa Group (from right): HR experts Susanne Eyrich, Linda Emmerling and Viktoria Labisch – on the left in the picture Prof. Dr. Volker Stein from the University of Siegen; Photo: Carina Koletzky

The labor market is becoming an applicant market

One Family
People & Culture

Even though this is no longer a new insight, it remains true: Especially in the area of qualified employees, there are more vacancies than applicants in many industries. Kurtz Ersa is no exception here – we are no longer just competing with our competitors for customers, but also for the best employees. With almost 180 open positions at Kurtz Ersa in 2022, the majority of which are newly created positions due to growth, employer attractiveness is a concept that we at Kurtz Ersa emphasize and fill with content.

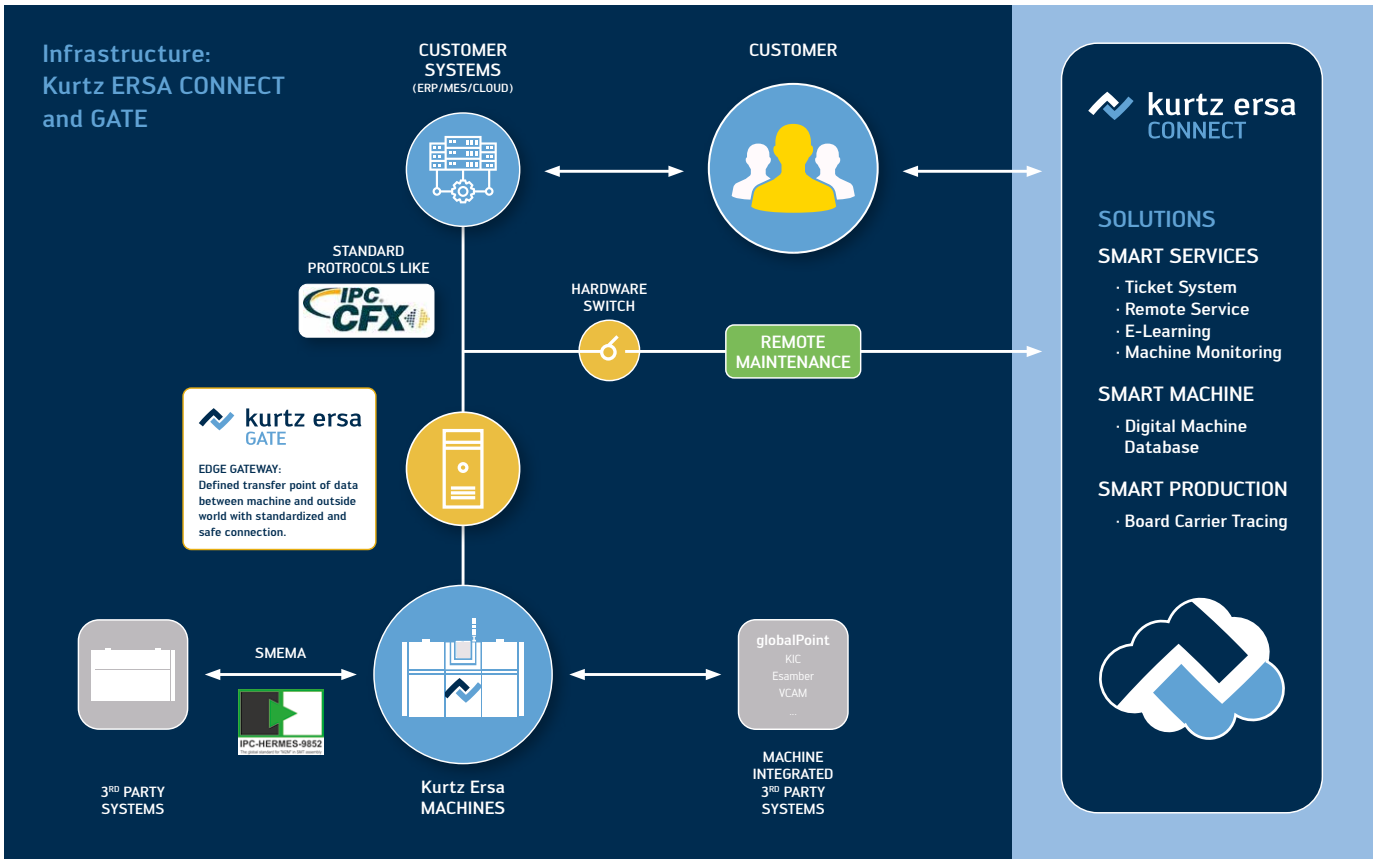
In addition to opportunities for internal training and further education, as an attractive employer we offer the opportunity to take advantage of training in the area of soft skills via the Kurtz Ersa Hammer Aademy – in addition to training in technical and methodological competence. Workshops across the boundaries of individual departments provide the basis for good communication and thus also contribute to the attractiveness. The identification with Kurtz Ersa is strengthened by the fact that successes of the company always bring the performance of an entire team to the fore. Furthermore, we know that factors such as a functioning feedback culture, internal communication and an attractive workplace design are also essential success factors for our internal attractiveness, which we continuously develop and shape. In addition, our self-image as a family company is reflected in many different aspects such as child holiday care or a wide range of offers in the area of company health management.

Lean, fast application process

For external attractiveness, our focus is on communication in the labor market and the management of applicants. With a professional approach via the various applicant channels, a lean as well as fast application process, we show our potential new employees that we also stand by our statements and promises during the interview process.

Our Kurtz Ersa training center, on the other hand, makes a significant contribution to securing skilled workers. For the year 2023/24 alone, 50 new training positions for apprentices and dual students have already been created from within the Kurtz Ersa companies. In addition, we offer high-performing young people attractive additional offers during their training and accompany lower-performing trainees through their training in a targeted manner. In addition to an interesting apprenticeship, these are important elements not only for finding suitable candidates and training them, but also for retaining them later as skilled employees in the company.

They say: "War of talent is over, talent has won" – at Kurtz Ersa, our commitment to our internal and external employer attractiveness makes a significant contribution to the fact that we have already been able to successfully and sustainably fill over 100 of our approximately 180 vacancies.



Industry 4.0

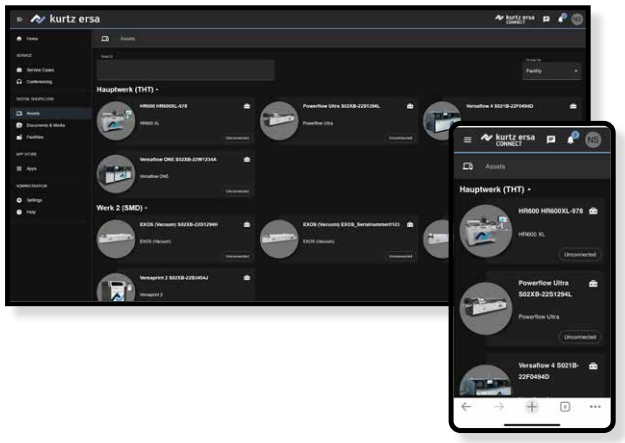
Added Value Standard Connectivity

The digitization and networking of manufacturing operations as part of countless Industry 4.0 projects is the key to greater productivity – regardless of whether this involves integrating and connecting the smallest components or highly complex systems. On the basis of a new cloud platform and a uniform solution developed together with business partner Symmedia, Kurtz Ersa now has an established standard solution throughout the group that can be built up in a modular fashion. This is available for all business areas – starting with Electronics Manufacturing, Moulding Machines (light metal casting and particle foam processing), and Additive Manufacturing – and of course is particularly effective in the area of automation.

Uniform platform for greater safety and productivity

"This means that the entire Kurtz Ersa machine portfolio – from small systems to large plants – can be connected with a uniform infrastructure and suitable gateway. We are thus offering our customers their own uniform and standardized technology, software and cloud platform that provides safety and at the same time increases productivity," says Nicolas Bartschat, Product Manager Digitization and Industry 4.0 at the Kurtz Ersa Group. A uniform, standardized interface to customer systems is provided, for example, via the Ersa standard MQTT and IPC-CFX. For comprehensive line and large-scale projects, the so-called Kurtz Ersa Line Controller can now also be used. With its help, line and process control as well as uniform data aggregation across the entire line is possible.

The new solution will be available for the majority of the Kurtz Ersa machine portfolio from quarter 01/2023. Nicolas Bartschat on the course of the project: "The challenge during implementation was to implement the connectivity solution within the shortest possible time for various machines and technologies used within the Group and including our entire automation business area. As a double hit, we presented our new product Kurtz Ersa Connect based on the Symmedia SSH solution at the Ersa Technology Forum and at the K trade fair – the customer feedback was excellent and we are looking forward to implementing many successful connectivity projects."



Third edition of Ersa Technology Forum

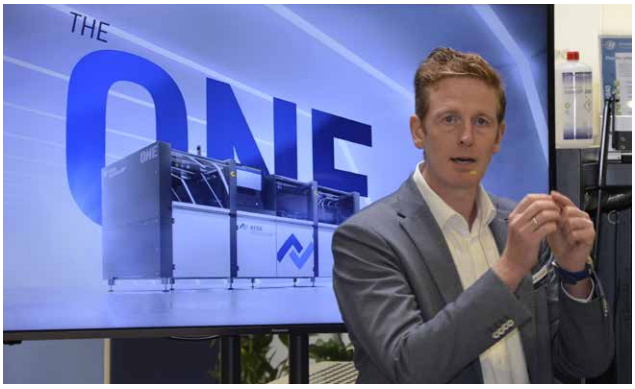
ELECTRONICS MANUFACTURING

Another successful event with in-house exhibition in Wertheim

Ersa once again welcomed numerous participants from the DACH region to the third "Electronics Manufacturing Technology Forum". Once again, trends and innovations in electronics manufacturing were presented – with attractive lectures, an in-house exhibition and live demonstrations.

Day one was dedicated to the PCB. Ralph Fiehler (KSG GmbH) spoke about "PCBs for high frequency and radar applications", which are increasingly used in the automotive sector at 77 GHz, but are also relevant for applications such as water levels or traffic monitoring. Amir Al Kassou (Infineon Technologies) spoke on "Power semiconductor interface and interconnect technology". Power semiconductor modules are used for energy conversion in converters, for example for variable-speed drives in industry, renewable energy, automotive or medical technology. The demand is for increasingly higher power density and integration with absolute reliability – here the trend is partly towards solderless assembly, for example by means of press-fit connections. After the lunch with short presentations on the system, Ersa Sales Manager Stefan Wurster presented system trends in soft soldering for wave, selective and press-fit technology. Wolf Rüdiger Pennuttis (Viscom AG) demonstrated the importance of inline inspection of assemblies in power electronics and presented typical inspection tasks in the environment of bonding wires.

Day two was dominated by digitization: the i-CON TRACE was presented, which for the first time enables complete traceability and can be operated intuitively. Wolfgang Heinecke (Mycronic GmbH) presented the protocol-based Hermes standard IPC-HERMES-9852, which will soon replace the current SMEMA interface for more direct machine-to-machine communication. Nicolas Bartschat, Product Manager Digitization, demonstrated via live demo the possibilities of the modular Kurtz Ersa CONNECT platform, which further improves the service and process quality of Kurtz Ersa equipment and brings comprehensive transparency to the production process. Finally, Ronny Witzgall (SMA Solar Technologies AG) demonstrated "Industry 4.0 from the user's perspective" and provided insights into the work of a database administrator of heterogeneous networks. At the end of the two-day event, organizers and participants were satisfied all along the line.



Ersa Sales Manager Tobias van Rossem introduces the Ersa VERSAFLOW ONE, which combines the best features of selective soldering technology under its hood

Ready for lots of input and innovations: The participants of the Technology Forum 2022 in the Customer Care Center at the Ersa site in Wertheim (a.); Ersa General Sales Manager Rainer Krauss welcomes to the third edition of the Technology Forum with In-House Exhibition (l.)

Kraus Hardware relies on **traceable hand soldering processes with Ersa i-CON TRACE**

i-CON TRACE – the world's most connected soldering station

Kraus Hardware GmbH has been active in component development and manufacturing for more than 30 years. Today Kraus Hardware generates more than 6 million Euro in sales and employs 35 people. The EMS service provider offers a wide range of services, including development, procurement, and professional storage of sensitive components to production, testing, repair and after-sales.

Kraus Hardware's latest investment is the next step in hand soldering; the Ersa i-CON TRACE with its traceable hand soldering process. The Ersa i-CON TRACE is the world´s first fully networkable soldering station. It features integrated WLAN, Bluetooth and network card, the IoT soldering station can be integrated into MES-controlled production processes, making the entire hand soldering process traceable and documentable.

Shortly after the market launch, Jörg Brand, Quality Management Representative and Certified IPC Trainer at Kraus Hardware, expressed interest in the new soldering station. This was no coincidence, the two companies have been business partners for years. In 2011, Kraus Hardware purchased an Ersa VERSAPRINT stencil printer, followed by an ECOSELECT 1 selective soldering system in 2014. Both systems have performed well for many years, so it made sense to rely on Ersa for a hand soldering solution. "Initially, the performance of the i-TOOL TRACE soldering iron – heat transfer, handling and easy soldering tip change – were important to me," explains Jörg Brand. "The quality of manual soldering processes is extremely crucial for us as EMS service provider." As an "electronics manufacturer", the company puts quality first – all processes are certified according to ISO 9001:2015. Managing Director Andreas Kraus sums up the future potential of the new soldering station: "With the ability to document the hand soldering process on a product-by-product basis, we´re playing in a completely different league!"

From test device to permanent fixture in Kraus hardware

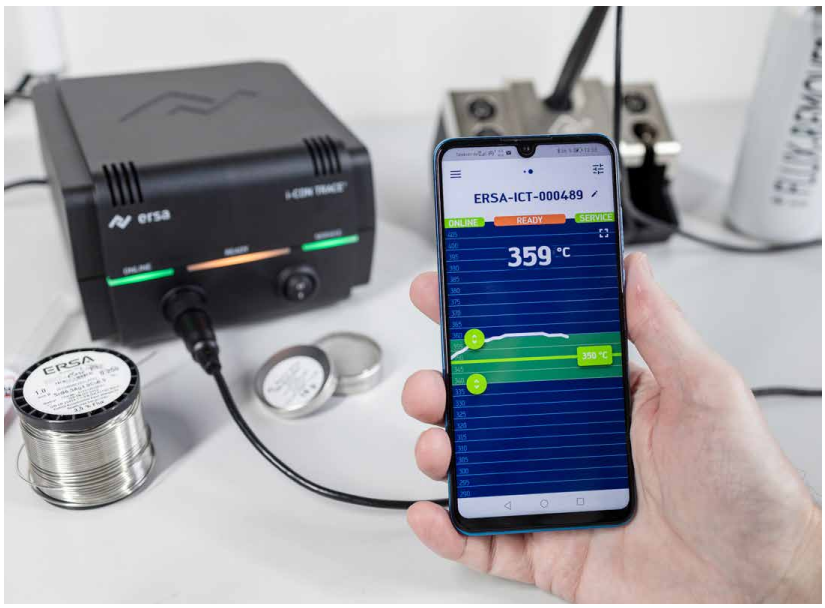
In an evaluation, several Ersa i-CON TRACE soldering stations were put into operation; soldering jobs were defined via Ersa TRACE COCKPIT to process a customer-specific job. It was important to integrate the systems into daily business under real conditions. Workflows created by the TRACE COCKPIT were evaluated by performing real soldering tasks – the rework of two assemblies – as "jobs". The results were successful, and the i-CON TRACE is now a permanent part of Kraus Hardware's production.

The i-CON TRACE´s seamless process data documentation is a key feature for future electronics production. It closes the gap in the hand soldering process with complete

traceability. For example, TRACE COCKPIT can record and store a complete soldering task in the desired file format. Specific soldering tasks can be assigned to each soldering station via TRACE COCKPIT, controlled via an existing Manufacturing Execution System (MES) or browser-based on a desktop/PC, tablet or smartphone. With increased process reliability, each workpiece is soldered according to predefined specifications. Component, soldering tip, solder wire and flux are recorded using a hand scanner. With this process, operators can proceed knowing that all conditions for the assigned soldering task have been met, and they can focus on soldering. Smaller operations have the option to use the i-CON TRACE individually via the mobile app.

Managing Director Andreas Kraus knows how important traceability is for high quality results in electronics manufacturing: "Our customers are both corporate groups – from automotive and aircraft construction or medical technology – and smaller companies, engineering offices and research institutes. They place high demands on us, often dealing with sophisticated electronic assemblies and systems that are ultimately responsible for important functions in their products." Kraus Hardware's customers should receive perfect solutions. That is why the company continuously optimizes processes, trains employees and invests in new technologies such as i-CON TRACE. Ersa is happy to provide support!

Quality Management Representative Jörg Brand from Kraus Hardware (front) working with a colleague on the i-CON TRACE



Intuitive and safe operation of the i-CON TRACE with the Ersa TRACE APP via WLAN. Setting and displaying all parameters on any number of soldering stations. For iOS and Android. In real time. With password protection

Review of the Electronica

In the middle of November the Electronica took place in Munich. We look back on four incredible days at the fair, during which our booth was very well visited throughout. We received many inquiries about prototyping, rework as well as our soldering machines. The i-CON TRACE IoT soldering station was also met with enormous interest among the trade fair visitors. It was noticeable that the visitors had a great need to catch up on information due to the long time off from the trade fair. The international visitors made it clear how important the trade fair is for the industry. In addition, we already received concrete purchase intentions for several products.

Wave or Selective?

After successful test phase, VERSAFLOW ONE replaces wave soldering system at VOIGT electronic

Having started in Erfurt almost 35 years ago, VOIGT electronic today is a modern EMS service provider with great passion and know-how for electronics manufacturing. The product spectrum ranges from components for biogas plants to medical technology. By investing in a VERSAFLOW ONE, their THT production has now been modernized.

VOIGT electronic GmbH was founded in GDR times on April 1, 1989 – after a nine-month marathon with the authorities, Matthias Voigt finally received his business license and started manufacturing PCBs. From the beginnings in his parents' house with self-made production equipment, VOIGT electronic developed into a modern EMS service provider with outstanding expertise for the customers and their products. These are, among others, components for measuring instruments, communication and industrial electronics as well as for railroad and traffic technology. With the advent of SMD technology in the 1980s, electronics changed rapidly – mixed assembly with THT components and SMD assembly on both sides increased steadily and became state of the art.

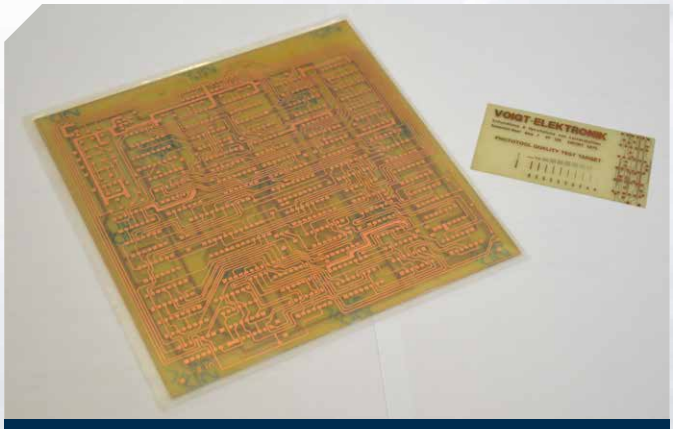
More flexibility for customer projects

However, VOIGT reached its limits with the previous wave soldering process. Their portfolio includes products suitable for wave soldering, for example assemblies with large THT content on four-layer PCBs. However, many new customer projects are not anymore – the-

Preparations for the next product:
Program input on the VERSAFLOW ONE

The new THT area at VOIGT electronic with VERSAFLOW ONE and ECOSELECT 4

What is the optimum soldering process for the product?
Production manager Frank Koppetsch talking to one of his employees



The first PCB produced by Voigt – matching:
The business card made of PCB material

se involve assemblies for measurement technology or test systems with up to 18-layer multilayers and large component variance. In addition, there are many small orders: In addition to series of up to 1,000 pieces, also prototypes and batch sizes of 20 to 25 assemblies. Up to twelve product changes per day must be handled. In an evaluation project, VOIGT therefore investigated whether the wave soldering process could be replaced by selective soldering.

Advantage of selective soldering: In addition to the elimination of soldering masks, individual components can be soldered with their individual parameters in the selective process. This is different with wave soldering, where heating and wetting time in the solder wave can only be set for the entire assembly. "Quality is crucial. But in this case, output was almost more important. At the end of the day, a certain number of assemblies must be manufactured to meet delivery times," says production manager Frank Koppetsch.

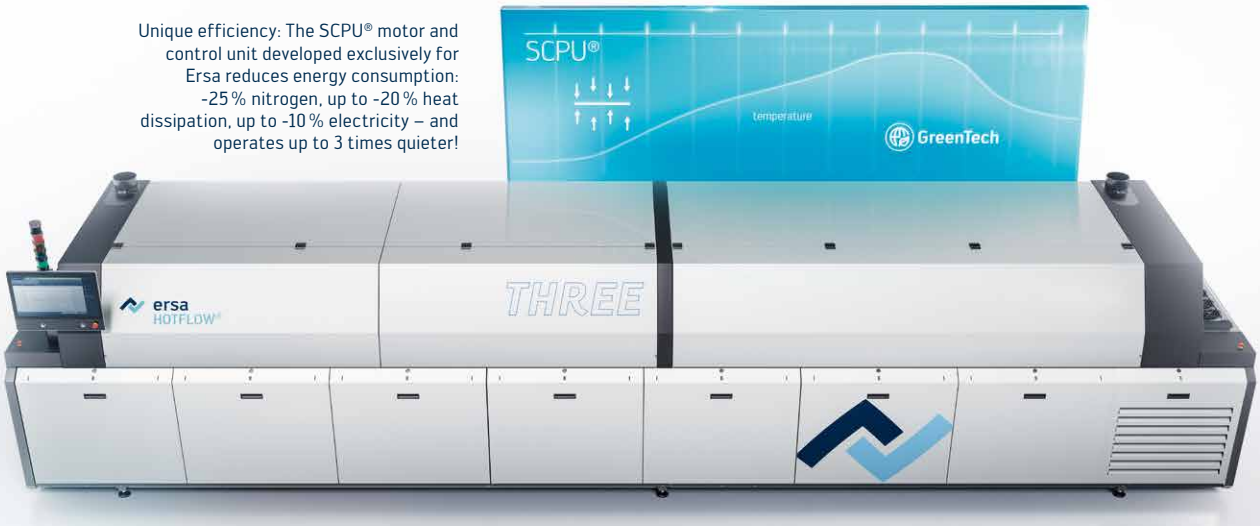
Technologically equipped

VOIGT electronic has been operating an ECOSELECT 4 for three years, so it was an obvious choice to again inquire in Wertheim for the new production line. "We place great value on long-term partnerships. We need partners who take us along technologically to be equipped for the future," says company founder Matthias Voigt.

The machine project was a win-win situation for VOIGT electronic and Ersa: At Productronica 2021, the VERSAFLOW ONE was introduced to the market as Ersa's new entry-level model into high-end selective soldering. Like the "big" Ersa selective systems, VERSAFLOW ONE has features such as solder level monitoring with automatic solder wire feeding and monitoring of the solder wave height. As a beta tester, VOIGT electronic found out under real conditions whether the existing wave system could be replaced by a selective soldering system.

Intuitive operation with ERSASOFT 5

"Our team got to grips with the system extremely quickly," reports production manager Koppetsch. VOIGT certainly benefited from its previous experience with the existing ECOSELECT 4. Like all Ersa systems, the VERSAFLOW ONE is controlled with the ERSASOFT 5 operating software. Programs for a product can be saved and are quickly available when needed. Soldering quality and throughput of the VERSAFLOW ONE were convincing – as was ease of maintenance and low nitrogen consumption. Thus, VOIGT electronic decided to adopt the VERSAFLOW ONE as a replacement for the wave soldering system after the test phase. "We are now even more flexible in production and have the desired capacity buffer. Maintenance is significantly easier and faster than with our old wave soldering system. We are excellently positioned for the future," sums up Frank Koppetsch.



Unique efficiency: The SCPU® motor and control unit developed exclusively for Ersa reduces energy consumption: -25 % nitrogen, up to -20 % heat dissipation, up to -10 % electricity – and operates up to 3 times quieter!

HOTFLOW THREE:

A new era for Reflow

Prodrive Technologies is one of the fastest growing technology companies in Europe. The Dutch electronics and mechatronics company, with additional subsidiaries and production sites in the U.S. and China, manufactures a wide range of high-tech products in the fields of electronics, software and mechanics for customers in a wide variety of markets. At Prodrive Technologies, all signs point to growth – to achieve set goals, the company is expanding its production capacity with an Ersa HOTFLOW THREE reflow soldering system.

High throughput and economic efficiency characterize successful SMD production. However, ease of maintenance and sustainability are also central to the production concept of Prodrive Technologies. With the Ersa HOTFLOW THREE, the company is investing in a convection reflow system that combines all these requirements. The proven technology of the HOTFLOW series has been further developed to make the reflow soldering process even more sustainable with the HOTFLOW THREE. In comparison, nitrogen consumption can be reduced by up to 25 % and power consumption by up to 10 %. At 59 dB, the HOTFLOW THREE also operates at a low noise level – important, especially when the system runs six days a week in multi-shift operation, as is the case at Prodrive.

The Ersa HOTFLOW THREE as part of the new SMD production line at Prodrive

Low maintenance thanks to triple cleaning system

Within an SMT line, the reflow soldering system has the highest maintenance requirements, which is why ease of maintenance and low downtime are essential. Contamination (so-called condensate) caused by outgassing of PCBs, components or flux must be removed regularly to ensure consistent quality of the assemblies. The HOTFLOW THREE was developed specifically to meet these requirements. The result is a cleaning system consisting of three units: SMART ELEMENTS® granulate filter, SMART PYROLYSIS CLEANER, SMART CONDENSATION UNIT.

The SMART ELEMENTS® filter and the SMART PYROLYSIS CLEANER already eliminate a large proportion of the dirt particles. In the con-

Easy accessibility of components (e.g. the SMART ELEMENTS® granulate filter as the first step of the three-stage cleaning system) makes machine maintenance uncomplicated and fast

The HOTFLOW THREE enables inspiring machine uptimes (OEE) with up to twelve weeks of continuous operation without maintenance intervals thanks to the three-stage Ersa Smart Cleaning System; the picture shows the SMART CONDENSATION UNIT, which, like the other two elements, is perfectly accessible

densate separation unit (SMART CONDENSATION UNIT), significantly less condensate arrives than in other common systems. This leads directly to an increase in productivity and longer operating times, as maintenance is required much less frequently. The individual components are quickly and easily accessible so that the line can resume production as quickly as possible. The low condensate formation also has a positive effect on the quality of the assembly – the contamination caused by outgassing of components, PCB or flux during cooling on the assembly is also minimized.

Unique selling point SCPU®

Stable and homogeneous temperature profiles with minimum ΔT and maximum machine availability are essential requirements for a modern reflow soldering system. Therefore, the development of the HOTFLOW THREE focused on process gas cleaning and energy transfer performance. The interaction of the factors gas flow, energy absorption and energy transfer to the product are essential for a perfect temperature profile. The HOTFLOW THREE uses convection as the heating technology. The SMART CONVECTION POWER UNIT® (SCPU®) motor and control unit, developed exclusively for the latest Ersa reflow soldering system, ensures an optimized soldering profile and increased process reliability, because thanks to the new geometry of the fan wheels used, an optimum flow is created in the convection system of the individual heating zones. Thanks to the interaction with the new motor control and the special design of the nozzle plate, the HOTFLOW THREE achieves homogeneous heat distribution across the entire process zone. The zones are individually controllable, which allows a perfect adaptation of the temperature profile to the requirements of materials, components and solder paste. At the same time, the SCPU® only consumes the power actually required, thus making optimum use of the energy employed. Even with complex, densely populated PCBs with a wide range of component sizes, the system ensures uniform energy transfer with a stable temperature profile and minimal temperature difference across the entire width.

The HOTFLOW THREE is aimed at all electronics manufacturers who want to achieve the highest production quality and economic efficiency. The maintenance-friendly cleaning systems ensure high availability!

25 years ersa REWORK

added value
closed loop
all components

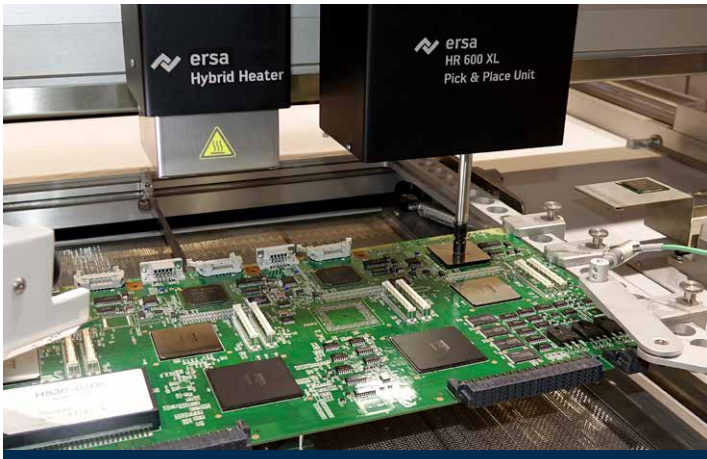
Sustainability in Practice!
A journey through 25 years of Rework Technology

Professional repair of large-format printed circuit boards with the HR 600 XL

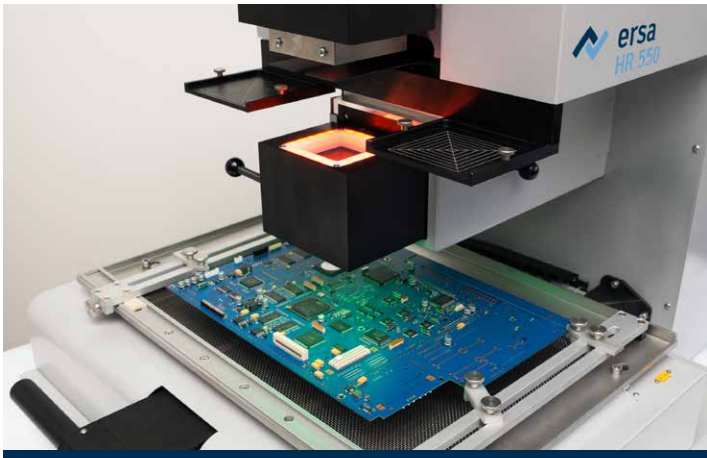
Ersa has been involved in the repair of electronic assemblies for 25 years. Above all, the rework of highly polarized SMT components – also called "rework" – is the focus here. In times of component shortages and interrupted supply chains, it is more important than ever to maintain the value already created.

It all started in 1997 with the IR 500 A, Ersa's first infrared rework system. It was developed in cooperation with Rewatronik to safely solder and de-solder the "Ball Grid Array" (BGA) components, which were still new at the time. A suitable unit for component placement was quickly designed in a further cooperation with the Swiss placement specialist Essemtec, since fine-pitch components and those with hidden solder joints could not be placed precisely enough manually. "When I joined Ersa in 2000, SMT/BGA repair was still in its infancy," says Jörg Nolte, Ersa Product Manager Rework. And adds: "But then things moved forward – the spread of BGAs, which were initially difficult to master, increased steadily, and with it the need for qualified rework."

Today, the BGA belongs to the family of bottom terminated components (BTC), i.e. components with solder connections on the component underside. Initially, BGAs were often the most sensitive components in an assembly: If the thermal balance in the soldering process was not completely balanced, the package would warp and often bridge or other solder defects would occur. The classic case with BGAs is and was excessive stress in the solder joints of the corner balls and the associated microcracks. The re-melting of the BGA with the addition of a little flux remains a tried and tested means of repairing such defects to this day. Today's BGA descendants are also sensitive to relevant process parameters. For example, "micro lead frame" (MLF) components tend to float when the amount of solder is inaccurately dosed, resulting in open signal contacts.



Ersa HR 600 XL – universal platform for the highest demands in component repair



Ersa HR 550 – powerful, semi-automatic table-top rework

IR-Technology

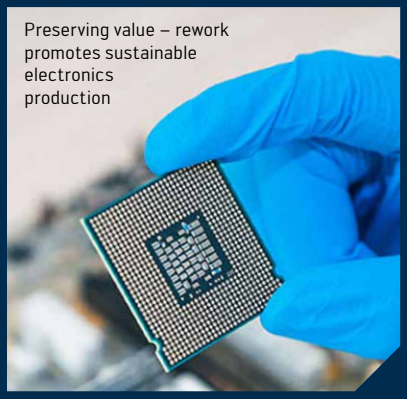
Even today, you can find adventurous clips of attempts to swap processors and other components on PCBs with the help of heat guns. The soldering results: More than questionable. Ersa had to invest a lot of time and energy in convincing users from cell phone service centers to the electronics industry to use infrared technology. The medium-wave and thus largely invisible radiant heat of the ceramic heaters was convincing: Unlike quartz heaters, their radiation spectrum is excellently suited to heat metals, plastics, ceramics and epoxy resins of a stationary assembly quickly and homogeneously. The temperature differences measured over a component (ΔT) reached values of only 6 °C and better. It quickly became clear that the sensor-guided process of a medium-wave IR rework system even has advantages over established techniques – the soldering profile follows the specification very precisely due to precise temperature control, and components and assemblies are heated homogeneously and gently. ▶

Lead-free repair

During the introduction of lead-free solders in 2006, the melting temperatures of the solder alloys (leaded 183 °C, lead-free approx. 217 °C) increased the demands on soldering equipment and rework systems. Higher temperatures produced smaller process windows and many component materials had to be reworked first; precise process control became increasingly important.

The Ersa IR/PL 550 and its bigger brother IR/PL 650 shaped the industrial component repair of this time. As a technical highlight, non-contact temperature measurement using a pyrometer was introduced for the first time. Due to the requirements for the repair of large and high-mass printed PCBs from the IT infrastructure sector, the first large-format rework system, the Ersa IR/PL 650 XL, was developed for an American EMS service provider. Rework has since been further professionalized, although some industries continue to exclude it. Studies such as the ZVEI's "Guide to Rework of Electronic Assemblies" show that professional rework leads to reliable results if – as in the line process – all important parameters are observed.

Precise component placement of chip components up to BGAs



Preserving value – rework promotes sustainable electronics production

Sustainability

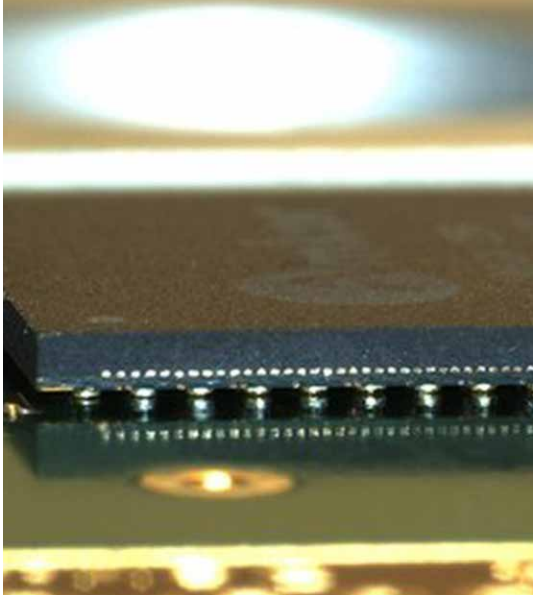
Maintaining added value and avoiding unnecessary scrap due to a bridge on a QFP or BGA is the first level of sustainable action. The "right to repair" demanded by the EU Commission forms the basis for avoiding electronic waste and advancing electronics production towards the Circular Economy. In industry and in service centers worldwide, thousands of circuit boards are processed with Ersa rework systems every day and thus saved from partly uncontrolled scrapping. While quite a few suppliers of rework systems have appeared and disappeared over the past 25 years, Ersa has firmly established itself in this field as well. Long-standing customer relationships, exemplary worldwide service and very long spare parts availability, even for products that have already been discontinued, are testimony to this.

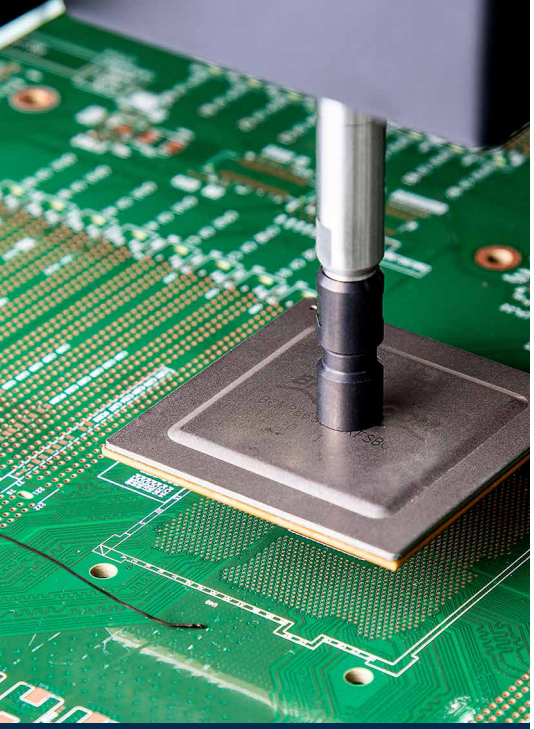
Ersa becomes hybrid and automatic

Hybrid technology is making its way into Ersa rework systems with the hand-held HR 100 and the automatic HR 600 rework system. Here, the proven IR heating technology is supported by a convection component in the area of the top emitters. This makes even better use of the thermal energy released by the emitter and heats the target component more quickly. Disadvantages such as the blowing away of the smallest chip components in hot gas systems do not arise because very low air volumes are used.

The HR 600, introduced in 2012, linked the desoldering process, component placement and soldering process for the first time in such a way that the operator of the device hardly influences the subsequent result. Process reliability and repeatability are the focus. The special feature of the HR 600 is its automated component placement. With the help of two cameras, image processing and a high-precision axis system, the target component is automatically positioned precisely on the PCB and then automatically soldered in place.

Clear view – process observation during soldering with RPC





with an edge length of approx. 100 mm

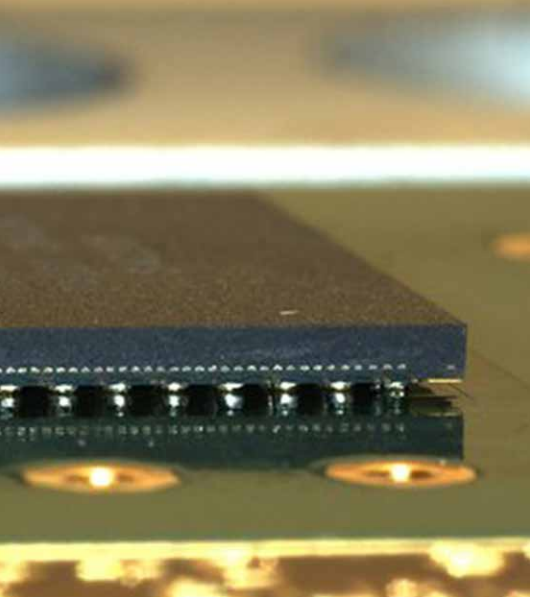
The new generation

The Ersa Rework portfolio has meanwhile gained further members: "Starting with the HR 500, today´s product range up to the HR 600 XL covers practically all relevant customer requirements of worldwide markets and industries," Jörg Nolte summarizes Ersa´s positioning. "The user hardly has to get used to anything when switching from one system to another – everything has the same structure," says Nolte. Although Ersa had brought the technology in-house relatively late with the first complete in-house development HR 550. Jörg Nolte: "It was a big learning curve for us, but we now have all the engineering expertise and can therefore react much better to market movements." In the case of the flagship HR 600 XL, functional extensions and optimizations requested by customers were thus quickly implemented – with an extended bottom heater, the system can now process assemblies up to a size of 625 x 1,250 mm, and with large heating heads, components with edge lengths of over 100 mm!

25 years ersa REWORK

added value
closed loop
all components

camera



What´s next?

"The development continues. Contrary to all predictions, assemblies still need to be reworked." Currently, an automatic residual solder removal system for the HR 600 XL is being launched. In the area of sensor technology, the company is working on optimizing non-contact measurement technology. Further topics on the accuracy of the systems, the continuation of the heating technology can also be found on the roadmap, as well as additional automation and the connection of the devices to MES. This makes rework a fully-fledged part of the production process in terms of sustainable production.

Technology Forum

Assembly Testing and Rework in times of component shortage

On October 20, 2022, Ersa held a technology forum in Wertheim on the topic of "Assembly Testing and Rework". With current component shortages and rising prices, it is important to ensure product quality, maintain value and efficient rework.

The event partner was the measurement and test system specialist Polar Instruments GmbH from Austria. Participants benefited from exchanges with technical experts and were given a view of new technologies. In the morning, technical lectures were presented, while in the afternoon, products were presented and tested. After a welcome and introduction of Ersa GmbH by Jörg Nolte, Product Manager soldering tools, rework and inspection systems, Hermann Reischer, Managing Director of Polar Instruments GmbH, presented various test strategies and systems – including challenges in fault diagnosis of electronic assemblies, fault scenarios in small batch production and current test methods.

Simple and efficient rework

Ersa Product Manager Nolte then addressed technical and process-related aspects of rework. Processes, technologies and tools were demonstrated that make rework simple, efficient and safe. Ersa Hybrid Rework systems and the i-CON TRACE IoT soldering station were also presented. Later in the Customer Care Center, Polar Instruments presented its GRS 550 flying probe tester with integrated signature analysis of components, e.g. for bare boards or assembled assemblies. Ersa provided the rework systems HR 550 and HR 600/3P as well as the i-CON TRACE for a "hands-on" demonstration.

The i-CON TRACE is the first IoT hand soldering station, it enables complete traceability of the hand soldering process. It can be intuitively controlled via a smart mobile app or networked via Ersa TRACE COCKPIT or connected to MES systems. The i-CON TRACE impressed not only with its outstanding soldering performance, but also with its patented Tip'n'Turn tip change and the new "green means go" operating concept. After the practical applications, an interesting and instructive event ended for the participants.

Technology Forum "Assembly Testing & Rework" at Ersa in Wertheim, Germany

Following the technical presentations, the participants had the opportunity to try out measuring and test systems as well as rework and hand soldering stations with experts in the Ersa Customer Care Center

Finally back in Wertheim:

International Sales Meeting (ISM)

from September 28 to 30, 2022

More than 80 of our sales partners from all over the world attended the ISM International Sales Meeting in Wertheim at the end of September. Among others, sales representatives of our partners from the USA, Australia, India, England, Italy and Poland were present. Our colleagues from Asia were connected live. The ISM focused on the presentation of our new products – such as VERSAFLOW ONE, HOTFLOW THREE and i-CON TRACE. But also the roadmaps for the planned further development of our products were presented in detail. ISM 2022 was the first face-to-face meeting of our international sales force since 2018, so the pleasure of seeing each other again, the personal exchange and the direct and easy clarification of questions and concerns was all the greater. The long journey was worth it, because our principle also applies in international sales: One Family!

Participants of the ISM 2022 in Wertheim

First face-to-face sales meeting for Kurtz Ersa Asia after the outbreak of the epidemic

Face-to-face Sales Meeting at Kurtz Ersa Asia

From September 28th to 30th, Kurtz Ersa Asia held the first face-to-face sales meeting since the outbreak of the epidemic in Clark, Philippines. The meeting brought together participants from countries and regions such as Vietnam, Philippines, Thailand, Malaysia, Singapore, Japan, Korea and Hong Kong, showing our long-term stable partnership with our contributors, business partners and customers. Our big sales team from China participated interactively via a MS Teams live session on various discussions. We would like to thank all our friends for the excellent cooperation, it is high time that we were all together again as a team, celebrated our common success in difficult pandemic times and swear in together for the further challenges of the future!

USA:
Kurtz Ersa, Inc. Successfully Hosts North American Sales and Service Meeting

This September Kurtz Ersa, Inc. successfully hosted their North American sales and service meeting at its Plymouth, Wisconsin headquarters. Over 60 Ersa Sales and Service colleagues, distributers and representatives attended the 3-day long event highlighting new products and providing an interactive opportunity to explore Ersa's full line of electronics production equipment ranging from hand soldering to rework equipment to soldering machines.

The ability to physically gather in the same place together was very welcomed after the past years of virtual sales and service meetings and the 3-day meeting concluded with recognitions of professional and personal accomplishments as well a celebration of Ersa's 100th anniversary and 50 years of Kurtz Particle Foam Machines.

The extremely informative demonstrations will benefit Kurtz Ersa customers and North American representatives, preparing them to react to the changing industry trends as well as gaining a deeper level of product knowledge to best support customer needs.

Ersa Technology

KNOW-HOW TRANSFER ON SITE

Ersa installs hundreds of soldering systems worldwide every year – providing hardware for electronics manufacturing is part of our job. In the second half of the year, however, we also increasingly passed on Ersa know-how to customers and representatives on site via technology days and sales meetings and were present at trade fairs. In the following we list some examples.

Mexico:
5th Educational Seminar for the Americas

During the last week of May, our 5th know-how seminar for the Americas was held in Cancún. With the participation of customers from the US, Canada, Mexico, Jamaica, Argentina, Chile and Colombia, we had full days of networking, a Styropek sponsored golf tournament, discussions on industry news such as innovative sustainability efforts, presentations from our newest business partner Hirsch, the EPS Industry Alliance, EPP applications, economic outlook and much more. Thanks again to all who attended!

Mexico:
Technical Seminar Guadalajara

On August 24 and 25, the Kurtz Know-How Technical Seminar was held in Guadalajara with the participation of 12 national and international companies from our customer base. Among the 80 participants were managers, supervisors, operators and technicians responsible for process and maintenance. The topics addressed during the session were maintenance of Kurtz particle foam shape moulding machines and Hirsch pre-expanders, as well as EPS and EPP fabrication, storage, preparation and molding processes. In addition to having the Kurtz Ersa Mexico team as panelists, there was the valuable participation of experts from Styropek and JSP, commercial partners who shared EPS and EPP information, respectively. The event was a great opportunity to network, share experiences, and learn about our customers' needs – all with the goal of ensuring that Kurtz Ersa Mexico customers have the best experience with their systems.

Austria:
All-Electric-Society – 2nd Stepan GmbH Technology Days

On October 12 and 13, 2022, the second Stepan GmbH Technology Days took place in Salzburg. Experts from the industry gave presentations on current process trends and forward-looking solutions in electronics manufacturing. A consistently great event, which enabled direct exchange with customers on site and was able to set strong impulses.

Denmark:
Review E-22 Fair

On all three days of the largest Danish Electronics Fair E-22 in Odense, there were many visitors at our booth. Whether VERSAFLOW, HOTFLOW or Tools – the Danish visitors were specifically interested in technology, performance and throughput. Especially the existing customers from Denmark and Sweden were often interested in new projects with short-term implementation. Digitization and the energy turnaround in particular are the reason for investing in new production lines. We had great fun at the trade show in direct contact with customers and interested parties!

India:
10th Ersa Technology Days

The 10th Technology Days in India took place at the end of November – in Bangalore with more than 70 participants, in Chennai there were even 85! Interesting presentations and the transfer of process know-how formed a perfect duo, because our audience consisted of existing customers with Ersa machines as well as quite a few new prospects who want to invest in machines in the coming months. We also took time for a lighting ceremony this time before we went deep into our soldering technologies Reflow (HOTFLOW THREE, where machine cleaning is only necessary every twelve weeks!), Selective and Wave.

Switzerland:
Review – Symposium Soldering

We had great pleasure in our "Soldering Conference Switzerland" in September. Together with Tamura Elsold and Intec AG we provided information about the latest technologies and products around hand soldering and rework within one day. New developments in the field of industrial hand soldering and rework were presented. The best came at the end: the hands-on with the soldering stations i-CON VARIO 4 and the new i-CON TRACE. The participants were able to gain practical experience on the HR 550 rework system. Technical discussions with the experts rounded off the successful day in Switzerland!

Bulgaria:
TecDay in Sofia

On October 18th, the Ersa Bulgaria TecDay took place in Sofia. Once again, the seminar was very successful and received an overwhelming feedback. We would like to thank Nikolay and Velin from ERSA Bulgaria for the great organization of the event. We are already looking forward to the TecDay in April 2023!

100 % steam savings	up to **100 %** recycling rate	up to **70 %** CO_2 reduction	**90–100 %** water savings	up to **90 %** energy savings	**100 %** suitable for biomaterials

LIVING CIRCULAR FOAM

Sustainable Solutions at the K 2022

At the world's leading trade fair for plastics and rubber in Düsseldorf in mid-October, Kurtz Protective Solutions presented its latest sustainable technologies, which contribute significantly to saving energy, water and CO_2 in the plastics industry and thus decisively optimize processes.

After months of preparations, the Kurtz team went all out at the K trade fair to offer customers an impressive trade fair experience with exciting exhibits for a whole eight days under the motto "LIVING CIRCULAR FOAM". The star in Hall 13 was the Kurtz WAVE LINE, which can be built up modularly depending on the application. To increase productivity, the machine has several tools in circulation at the same time. The heart of the WAVE LINE is the now triple award-winning radio frequency technology, which uses high-frequency electromagnetic waves to process not only standard materials, but also new materials and biomaterials. This makes it possible to produce new types of sustainable packaging. With RF technology, a higher proportion of recycled material can be reprocessed than ever before. In the EPS shape molding, for example, it is up to 100 %. The steamless process with radio frequency (RF) can achieve high savings: up to 70 % in CO_2 emissions, up to 90 % in energy consumption and up to 100 % in water consumption. For small to medium-sized applications and product families, the WAVE LINE is the most efficient way of processing particle foam and the most promising in terms of climate protection. At K, the line produced mini floor pads from recycled expanded polystyrene (rEPS) three times a day during moderated live demonstrations. ▶

Injection molding meets particle foam

The other two exhibits, Kurtz THERMO FOAMER and Kurtz Ersa Alpha 140, also attracted high visitor interest. With the THERMO SELECT process and the THERMO COATING/IMPFC process (IMPFC short for In-Mold Particle Foam Coating), Kurtz offers the automotive industry a novel lightweight solution. It produces closed, visually attractive molded parts without bead structure and with an injection molding-like surface. The shape moldings are solid, but nevertheless very light. When a car reaches the end of its life cycle, recyclability is guaranteed because the same raw material is used for both the particle foam layer and the injection-molded surface – in this case polypropylene. The THERMO SELECT process works with variothermal mold temperature control and achieves significantly reduced water consumption with a closed cooling system without direct water cooling. The Kurtz THERMO FOAMER was well supported by the booth staff and always surrounded by customers. The robot runs of the demo unit with spraying equipment, which was supplied by colleagues from Kurtz Ersa Automation, went flawlessly.

Metallic 3D printing for tooling of plastics applications

The Kurtz Ersa Alpha 140 was of particular interest to tool manufacturers present at the K show. The 3D printer´s LPBF (laser-powder bed fusion) additive manufacturing process enables the production of mold inserts or molds for particle foam or injection molding applications. Near-contour and complex cooling channels can be integrated into the interior of the part, enabling optimizations such as reduced cycle times, increased productivity, and improved part quality. The metallic 3D printer was running in demo mode at the K trade show. The K fair logo had been printed at home and taken to the fair.

Participation in Circular Economy Forum

At this year´s K, Kurtz participated in the VDMA´s Circular Economy Forum with its own 100 m² pavilion on the topic of "New Materials". The second Kurtz trade fair presence on the outdoor area in front of Hall 16 with sample parts made of sustainable materials was also well frequented. In this area, more intensive attention was paid to the topic of circular economy and circularity in EPS, bioplastics as well as alternative packaging materials, such as packaging made from puffed corn. The pavilion appearance was completed by the strong support of staff from our partners Plant Pack (processor of puffed corn as packaging material) and Cerex (equipment manufacturer for the deflagration of corn granulate).

Positive review for the highlight event of Kurtz Protective Solutions

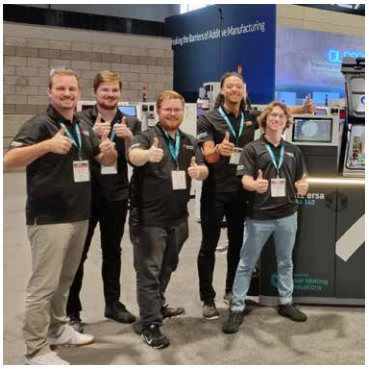
Managing Directors Uwe Rothaug and Matthias Hofmann look back on K 2022 with enthusiasm: "You can tell that the industry has recognized the need for a shift toward more sustainable production processes since the last K show, and we're happy to meet that need with our climate-friendly technologies." Stephan Gesuato, General Manager Protective Solutions, was also pleased with a successful trade show: "Our concept worked out and we received a lot of praise for our trade show presence. Our booth staff conducted intensive consultations and with our partners and international representatives we were perfectly positioned for the broad trade audience. We would like to thank all helping hands and look forward to the exciting project phase of customized inquiries."

LIVING CIRCULAR FOAM

Kurtz Ersa & Würth Additive Group together at IMTS in Chicago

Kurtz Ersa together with sales partner Würth Additive Group successful at IMTS in Chicago. Clear mood of optimism to be felt in additive manufacturing in the USA.

For the first time since 2018, the International Manufacturing Technology Show (IMTS) was held at McCormick Place in Chicago, Illinois, from September 12 to 17, 2022. The show, usually held every two years, had been cancelled in 2020 due to Corona. IMTS is the largest and oldest manufacturing trade show in the Western Hemisphere. The desire for a reunion and face-to-face exchanges were high, with more than 86,000 attendees registered for the show. The atmosphere and energy were also very good, with a clear sense of optimism emerging in the additive manufacturing process in the US.



Always well attended: the joint booth at IMTS in Chicago – a constant focus of interest: the Alpha 140

This was also clearly reflected in the number and quality of our trade show contacts. We presented our Alpha 140 at the joint booth with the Würth Additive Group and its other partner Rapid Shape, which manufactures 3D plastic printers. The booth was always well attended, and visitor interest in the Alpha 140 was high. A particular success was that an Alpha 140 was sold directly at the trade fair and further very concrete discussions were held. Our summary of the IMTS is extremely positive. We are looking forward to good business after the show and to the next IMTS in 2024, which will be held again in Chicago from September 9 to 14.

A big thank you to our partner Würth Additive Group for the always excellent cooperation before, during, after and between the most diverse joint events!

ALPHA 140 – we are constantly evolving!

We have listened carefully to our customers – and in order to be able to offer an even more reliable product, we have developed our 3D metal printer accordingly. In addition to further technical developments, the printing and process quality has been optimized.

We have now been successfully marketing our Alpha 140 for two years. In order to live up to our claim of constantly developing further, it is a matter of course for Kurtz Ersa that we also continuously improve our products and adapt them to customer requirements. At Formnext 2022 in Frankfurt am Main in November, we were able to present technical enhancements in line with market feedback and our own accumulated experience, so that the Alpha 140 can manufacture additive components even more reliably in the future.

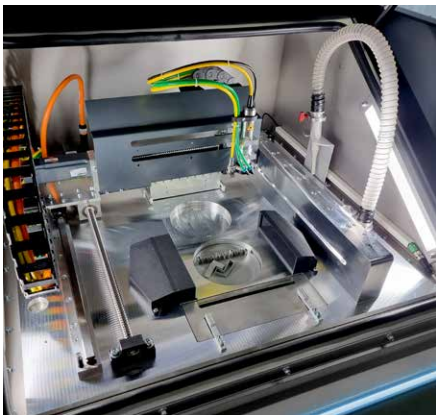
Some examples of our further developments:

- The wear resistance through improved shielding against powder or process fumes was increased and the shielding gas supply was optimized.
- These changes also resulted in an adaptation of the optics holder, which has the positive side effect of further stabilizing the optics and achieving an even better print result.
- The Alpha 140 can now reach web speeds of up to 500 mm/s and thus travel 2.5 times faster than before.

In addition to the technical enhancements of the basic Alpha 140 process, the integrated nitrogen generator and powder extraction options have also been further improved. The integrated nitrogen generator makes it possible to integrate the additive manufacturing system even without an existing nitrogen infrastructure – simply connect to the existing compressed air supply and the Alpha 140 is "ready to print".

And the integrated powder extraction makes it even more convenient, and therefore safer, for the operator to de-powder the components directly in the Alpha 140 after the printing process. These two options make the Alpha 140 a compact all-in-one solution, perfect for entry-level additive manufacturing.

The further developments presented in Frankfurt are now undergoing a final long-term test at our Development and Technology Center (ETC), so that the series will be released at the end of Q1/2023.



View into the interior of the Alpha 140: With the integrated powder extraction, the collection of metal powder after the printing process, in order to reuse it after a screening process, becomes even more comfortable and safe

With the integrated nitrogen generator and powder extraction options, the compact all-in-one solution – the fully equipped Alpha 140

ANKIROS 2022
finally back in Istanbul

ANKIROS offers the gateway to the foundry world in Eurasia. Together with its partner Korkmaz Celik, Kurtz Casting Solutions traveled to Turkey. A journey that was worthwhile: The Kurtz low-pressure technology wowed the trade fair audience.

At the beginning of October, the time had finally come again: ANKIROS, one of the world's most important events for the foundry industry, could take place after a forced break of four years. Kurtz Casting Solutions also took the opportunity to meet long-time business partners after a long absence and to establish new contacts in Istanbul. Especially in challenging times with economically and politically volatile framework conditions, proven partnerships and reliability pay off particularly well, which must be maintained and further expanded.

Kurtz Casting Solutions and its representative Korkmaz Celik have been successfully serving the Turkish market for five years. Over the three days of the fair, the joint booth was consistently well attended, and many interesting discussions were held. Kurtz noted particularly great interest in the area of wheel production in low-pressure casting. Due to the well-known reference projects already realized by Kurtz Casting Solutions in Turkey, many interested parties also came from the automotive sector – as well as some customer foundries with special requirements for Kurtz machines for a flexible production of smaller castings such as door handles.

In total, the ANKIROS/TURKCAST combined trade fair was able to count almost 19,000 visitors and over 1,000 exhibitors this time, making it the largest casting metallurgy event in Eurasia. The concrete projects discussed at the ANKIROS booth certainly give hope that some will also become concrete orders. "There is currently a lot happening in the Turkish market and we are convinced that we can get a piece of the pie," said Lothar Hartmann, General Manager Casting Solutions, at the end of the three days at the fair. He traveled to Turkey again directly two weeks after the trade show to intensify project discussions with customers on site.

The joint booth at ANKIROS 2022 was well attended. Reference projects already realized in the Turkish market attracted new interested parties

The new options of the Alpha 140 and a first component of the Kurtz Ersa Flying Ray met with high visitor interest

PERFECT ANGLE PRINTING AT FORMNEXT 2022

Kurtz Ersa Additive Manufacturing´s second participation in the leading trade fair for additive manufacturing was a complete success. The still young division of the Kurtz Ersa corporation used the trade fair for intensive networking.

For four days in November, Messe Frankfurt transformed into the center for additive manufacturing (AM). Formnext offers the vibrant and dynamic AM industry with its numerous innovative companies a platform for exchange and presentation of interesting 3D printing applications. Four halls of the fairground were open to visitors. Kurtz Ersa exhibited its Laser Powder Bed Fusion (LPBF) solutions on 80 m² under the motto "PAP – Perfect Angle Printing", offering customers a unique technology in terms of quality. Exhibits included the Alpha 140 metal 3D printer – equipped with the new options of integrated depowdering and integrated nitrogen generator – and a first printed part of the Flying Ray. As always, the Kurtz Ersa Alpha 140 was of interest to all visitor groups as a compact entry-level printer. The Alpha 140 was correspondingly surrounded during the demo operation as well as the small sample parts that have been travelled from the Spessart region to the city. The sample parts were the icebreaker and helped to open numerous conversations. There was great interest especially in the large-format 3D component of the Flying Ray, a motorcycle swing, presented courtesy of RWTH Aachen University – Digital Additive Production DAP. The part takes up about a third of the Flying Ray´s possible printable build platform. The component gives an idea of the spheres in which the Flying Ray will be able to print in the future. As a relative newcomer to the industry, our AM division took advantage of the "socializing" factor: At our booth, a barista pampered visitors with Italian coffee specialties – the offer was very well received, and many more contacts were made as a result. Ralph Knecht, CEO of the Kurtz Ersa corporation, and Managing Director of the AM division, sums up with satisfaction: "Our second trade fair participation was an absolute must for our new division with start-up character. We are pleased that our colleagues have already grown together into such a strong team. After such a short time, they are already very confident and successful in sales. Meanwhile, our R&D department is doing a great job working in the background and the trade fair visitors can already look forward to a brilliant appearance next year."

The right solution for every application: Kurtz technologies work hand in hand

Joint forces at ALUMINIUM 2022

The technologies of Kurtz GmbH & Co. KG are true team players. They work hand in hand when it comes to finding the optimal solution for Casting Solutions and Additive Manufacturing (AM) customers. In Düsseldorf, they made a joint appearance at the Innovation Plaza Additive & Digital Manufacturing at the end of September.

For the first time, Kurtz Casting Solutions did not participate in ALUMINIUM with the Foundry Pavilion in Hall 10, but in Hall 5 within the joint area of the Innovation Plaza Additive & Digital Manufacturing. Kurtz presented its comprehensive solutions for lightweight construction and e-mobility. Low-pressure casting technology and metal additive manufacturing optimize the production of chassis parts and ensure a sustainable future in the long term. Low-pressure casting is one of the most efficient processes for manufacturing chassis parts in series production. For small batch sizes, special materials and complex geometries, AM again plays to its strengths. With the help of sample chassis parts and 3D components as well as an Alpha 140 3D printer in operation at the show, visitors were given the best possible advice. The move to Hall 5 was a good decision and ended up in many new contacts.

Kurtz Protective Solutions at FOAM EXPO EUROPE 2022

Small trade show, great requests!

FOAM EXPO has established itself as an integral part of the Kurtz Protective Solutions trade show calendar in North America and Europe. In Stuttgart, there was high interest in Kurtz´s sustainable technologies.

Every year in November, FOAM EXPO EUROPE takes place in Stuttgart. This year, the kick-off was less than two weeks after the end of the K show. Our booth staff was still "in the consulting flow" and happily answered all the visitors´ questions about the focus technologies THERMO COATING and steamless radio frequency process technology. The number of visitors is not comparable to the K-fair, but the Kurtz Protective Solutions sales department found more time for individual discussions and intensive exchange about possible customer projects. Some interested parties came in in the morning with very concrete application cases and took a lot of time in the afternoon for queries about the Kurtz solutions, so that the foundation for continued discussions could be laid with the prospect of an early conclusion.

Group uses synergies – Sonnenbühl joins in the attack

New workstation for double-crucible assembly (le.), Cable assembly (r.)

When individual divisions of the Kurtz Ersa Group reach their capacity limits due to well-performing business, locations with free capacities naturally help out. "One Team, One Family!" – another example of our corporate culture in action between Ersa and SCHILLER Automation.

When capacity limits are reached, it is important to coordinate requirements and make optimal use of performance capabilities. Fortunately, the order books of Ersa GmbH are well filled despite the generally prevailing political as well as economic crises, so that the Ersa component assembly can use energetic support. The employees of SCHILLER Automation GmbH & Co. KG at the Sonnenbühl site, which has been part of the company for almost a year now, currently have free capacities available in their production. It is clear that they are helping each other. The tin feed and nozzle activation of various Ersa series are now manufactured in Sonnenbühl. Cables are also pre-assembled.

With its 150 employees, SCHILLER Automation thus not only strengthens the Automation business unit, but also provides support in other areas of the Group. Other topics, such as the Kurtz Ersa Line Controller for the horizontal and vertical connection of Kurtz Ersa machines to third-party systems, are also developed in the Swabian town of Sonnenbühl and used throughout the Group. In the future, the assembly of the required double crucibles will also take place at SCHILLER Automation. In this way, the capacities in the Kurtz Ersa family will be optimally utilized. As a charming side effect, the business units continue to grow together and will be an even better team with united strength in the future.

kurtz ersa

SCHILLER

View into the robot cell of the Kurtz Ersa ROBOPLACE during a placement process

Automation of repetitive jobs

Repetitive jobs in the production environment tie up manpower. In order to use available human resources more efficiently and to optimize production processes, the use of a Kurtz Ersa ROBOPLACE is worthwhile.

The Kurtz Ersa ROBOPLACE places components with the highest precision and is specially designed for repetitive placement and assembly jobs. Small, medium and high volumes are its strength. By using a Kurtz Ersa ROBOPLACE, employees are freed up for other, more complex tasks that need to be completed. The ROBOPLACE's closed, safety-monitored robotic cell enables the fastest placement speeds, resulting in very short cycle times. The component feed is designed application-specifically according to the task at hand. Such as the placement of THT components on technically demanding PCBs. Modern image processing systems inspect the components before placement and reject defective components with regard to deformed pins or other quality parameters, so-called NiO components (non-in-order components). This ensures that defective components do not cause damage in placement tests that cannot be displayed. The tolerance zone of the components or the products to be placed is defined before production starts. The general process sequence starts with the pickup of the components from the feed station by the gripper system. This is followed by the vision check, where each component is inspected. If all components are in order, the process continues directly to placement. If a defective part is detected, the robot moves to the ejection position. There it unloads the component, fetches the necessary replacement from the feed station, and thus ensures that the PCB is completely assembled without errors. Kurtz Ersa Automation has a suitable gripper in its portfolio for all possible assembly work. By integrating a quick-change gripper system with a corresponding gripper station, boards with a high component/product variety, for example, can be assembled without setup times using just one ROBOPLACE.

Technical Highlights Kurtz Ersa ROBOPLACE

- Utilization of valuable worker capacity for demanding and less monotonous activities
- Increase of production output due to high availability
- Elimination of production fluctuations resulting from manual placement process
- Proven high quality of the automated placement process
- Integrated component control
- Customized placement solutions can be realized
- Feeding module concepts can be adapted to specific tasks

CARDBOX ENGINEERING

by Kurtz Ersa Automation

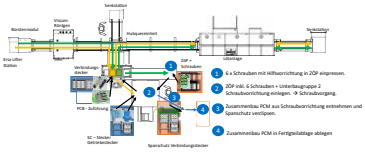
The Automation business unit has recently started offering cardbox workshops. What originally started with a trial project has quickly proven to be extremely useful for validating workplace systems. Customers experience their workplace environment on a 1:1 basis, and adjustments can be evaluated immediately.

"Cardbox Engineering" (CE) analyzes existing workflows and material flows and, using pragmatic tools, models conceivable solutions and makes them actually tangible. Designs can be tested, discussed and improved cost-effectively using this approach. It is a simple and fast form of simulation. With CE, ideas are implemented with simple means in a workshop character. The flexibility to adapt directly after initial testing is given at any time. Another advantage of CE is that later operators and users are involved in the creation and creative process at an early stage and practical solutions are found. Workshop participants contribute arguments that are indispensable for system design. Expensive planning or design errors are reduced and a large part of the cost-intensive modifications after commissioning are eliminated. The workshop offers plenty of room for brainstorming and interaction. The result is a team effort, so acceptance of the outcome is high.

Cardbox Workshop: 20 to 50 % savings potential

Through the Kurtz Ersa Cardbox Workshop, inconsistencies in the process become visible and the material flow is fully and sustainably considered. The task is to create the most efficient work systems, taking into account proven lean principles. For example, Kurtz Ersa Automation analyzed two material flows of subassemblies for a well-known automotive supplier and created a new concept with an improved value stream. Kurtz Ersa Automation optimized the complete value chain from upstream to the main process of soldering and downstream. The focus was on reducing throughput times and ergonomics, including a "test drive" on a 1:1 scale. The savings potential on the customer side is often 20 to 50 % after completing Cardbox Workshops. The recommended group of participants generally included plant managers, team leaders, foremen and production employees, i.e. abstract and operationally thinking technical personnel.

Concept Phase



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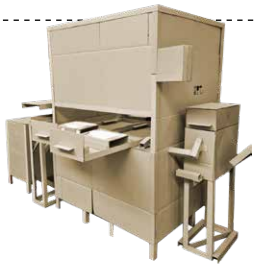
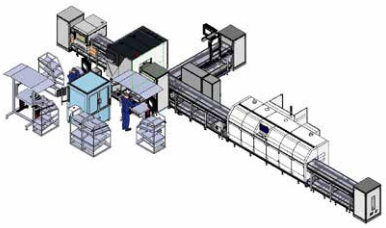
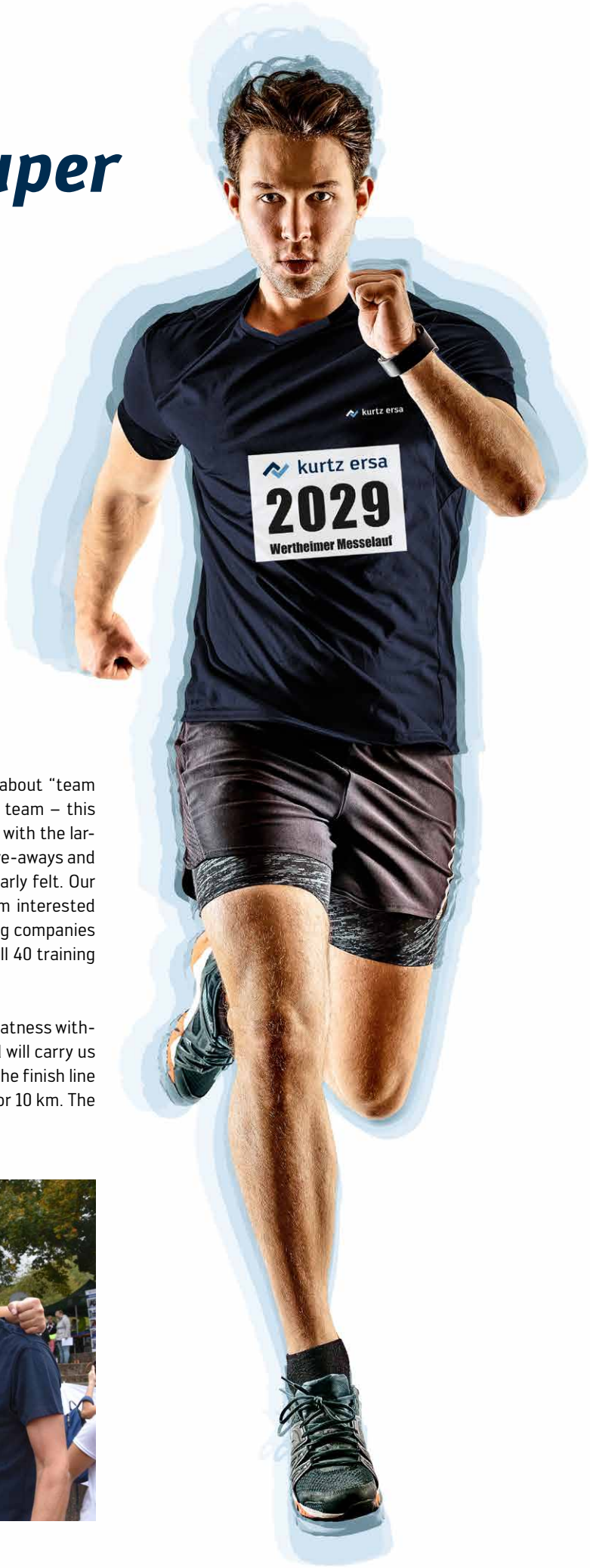


Realization



Wertheim run – great event, super atmosphere!

Kurtz Ersa with the most runners in the category "company"



Kurtz Ersa's participation in the city run in Wertheim was all about "team spirit". In good old tradition, we went to the start with a large team – this year it was even enough for 1st place in the category "company with the largest number of starters". The supporting program with tent, give-aways and runners' catering did its part to make the Kurtz Ersa spirit clearly felt. Our recruiters were also at the start and answered questions from interested young people – after all, Kurtz Ersa is one of the largest training companies in the region and we are very pleased that we were able to fill all 40 training positions this year.

Having fun together and being there for each other, showing greatness without being arrogant. This is what has made Kurtz Ersa great and will carry us all much further. All runners under the Kurtz Ersa flag crossed the finish line safely – whether it was a mini run, bambini run, school run, 4.5 or 10 km. The atmosphere was great, next year we will be there again!

One Family feeling at the Kurtz Ersa summer party

Finally celebrating together again, finally feeling the ONE FAMILY feeling again. A celebration with many colleagues was long overdue! On July 1, the time had come and the long-awaited Kurtz Ersa summer party could take place in the Main-Tauber-Halle in Wertheim.
It was the first big party in the company after a break of more than three years. During this time, there would have been many occasions to celebrate: 100 years of Ersa, 50 years of Kurtz Particle Foam Machines, 5 years of Hammer Academy, the "Factory of the Year" award, to name just a few. But Covid-19 put a spanner in the works.
All the more exuberant was the mood of the 700 colleagues who had accepted the invitation to the Kurtz Ersa summer party. With the best weather, the drinks were flowing, among others in a cocktail bar. Food trucks with a colorful range of offers provided for the physical well-being on the summer festival lawn, a DJ additionally heated up the atmosphere.
In the first part of the event, CEO Ralph Knecht welcomed those present and thanked all employees for their commitment and cohesion even in difficult times. Rainer Kurtz was recognized for his 40 years of service at Kurtz Ersa by Ralph Knecht and the Global Board. As a farewell gift, the former CEO received a mosaic consisting of pictures of the last decades and many Kurtz Ersa employees. Group Works Council Member Joachim Kraft also paid tribute to Rainer Kurtz for his decades of service. He in turn returned the thanks to everyone: "Without you, Kurtz Ersa would not have become the company it is today!"
The party was great and everyone – staff, retirees, management and the Kurtz families – celebrated with high spirits into Saturday. Once again, we have shown that we want to and can celebrate our successes together!

kurtz ersa Sommer fest 2022

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