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07/24

Kurtz Ersä Magazine

For Customers and Business Partners of Kurtz Ersä Corporation



Electronics Production Equipment

Airbus is supported by Kurtz Ersä in satellite construction

Moulding Machines

Protective Solutions: More energy efficiency with CoreLess Technology

Automation

Inline Hyperspectral Inspection: Used to check electronic components

GLOBAL. AHEAD. SUSTAINABLE.

 kurtz ersä

The No. 1 team Best production sol

Innovation is the driving force behind our business. In line with our vision “The No. 1 team for sustainable production solutions”, our aim is to always provide you with the best solutions for your challenges in the production environment.



Thomas Mühleck and Jochen Meinhof

In this issue, we present exciting highlights from our business units and international markets. You will gain an insight into the activities of our global companies and learn more about customer projects that exemplify our above-mentioned vision.

Our sustainability campaign “GoGreen250” is a central pillar of this, alongside the development of new products. We recently presented our third sustainability report with great pride. From page 4 onwards, you can find out what other measures we will take to achieve our goal of being CO₂-neutral by 2029. The installation of PV systems in our factories and over 70 charging points for e-mobility for our customers and employees are just a few examples of our successful implementation of the energy transition.



schiller-automation.com



for sustainable in Class! olutions

The opening of our new application and demo center near Hanoi in Vietnam was an important step towards being able to offer our customers a comprehensive range of services directly on site. This project is part of Kurtz Ersas strategic expansion in Southeast Asia and aims to strengthen customer service and support. Another impressive example of the consistent implementation of our global footprint is the opening of the new production facility in Ciudad Juárez (Mexico) for HOTFLOW reflow soldering machines. This will strengthen our position in Central America, optimize logistics processes and reduce our customers' carbon footprint.

Facts on how the service aspect is playing an increasingly important role in our business model can be read in more detail from page 14 onwards in the article "Future Services & Added Values". Here we provide far-reaching insights into how we shape the topic of "Service" for Kurtz Ersas and generate concrete added value for our customers. Our focus here will continue to be on customer-oriented applications and

holistic solutions. We live our "Culture of Innovations", which flows into highly-complex applications in real life – read our aerospace story from the Ersas world of "Electronics Production Equipment" on page 10 on supporting Airbus satellite production.

As already announced in the last issue of our customer magazine, I am giving those responsible from our operational business units a chance to speak. Today I would like to introduce you to Jochen Meinhof, Managing Director for Sales & Marketing at SCHILLER AUTOMATION GmbH & Co. KG, a leading provider of automation solutions for the automotive and electronics industries.

"We have been part of Kurtz Ersas for around two years now and our many years of experience and valuable customer relationships complement the portfolio for our customers. SCHILLER AUTOMATION has become an important pillar of the Kurtz Ersas Group, contributing its strengths and expanding the Group portfolio in a meaningful way. For its part, Kurtz Ersas is locating new technologies at SCHILLER AUTOMATION, which further develops our expertise, opens up access to new markets and offers the best growth prospects for the future. Together with the automation unit at Reinhardshof, we can offer customers from the electronics industry in particular fully-automated solutions, for example for soldering."

**Let us design your "best in class" solutions together,
full of energy, innovative drive and team spirit.**



Thomas Mühle
CFO and CEO a.i.



Jochen Meinhof
Managing Director Sales & Marketing
SCHILLER AUTOMATION GmbH & Co. KG



SUSTAINABILITY

SUSTAINABILITY INITIATIVE GOGREEN250 NEXT STEPS



In the last issue of “Kurtz Ersa Magazine”, we already reported on the progress made towards sustainability in 2023 – in this issue, we also want to provide an up-to-date overview of how our GoGreen250 sustainability initiative has developed since its launch in 2020 and what the next steps are.

For example, we were able to increase our ESG rating to 56 points in 2023 and last year we installed a total of 70 charging points at our sites in Kreuzwertheim and Wertheim, which can be used by our business partners, our employees and, of course, our constantly growing e-vehicle fleet. Our fleet now consists of 21 electric and 19 hybrid vehicles. Many employees have also already registered and are charging their private vehicles with us.

We also implemented numerous other measures in 2023. On the one hand, the focus was and is on continuously increasing our energy efficiency, which we have achieved through a large-scale con-

version to LEDs, the replacement of two heating systems and an energy-efficient window refurbishment. Furthermore, we also significantly increased the amount of electricity we generate ourselves last year by installing and commissioning a total of three PV systems with around 1.5 GWp. In 2023, we were thus already able to cover around 12% of our electricity requirements at the Kreuzwertheim and Wertheim sites ourselves.

“However, we have not only pushed ahead with environmental protection measures. It is important to us that ESG (environmental, social and governance) is viewed holistically – this means that we implement classic

‘green’ environmental issues, but also develop and drive forward goals and projects in the areas of social affairs and governance,” says Anna Hieble, Head of Corporate ESG. In 2023, we therefore dealt extensively with the Supply Chain Sustainability Act and prepared for its implementation in our supply chain and at our own sites. We also revised our Code of Conduct, which applies to both the Kurtz Ersa Group and our business partners. In addition, we took the first steps towards the international roll-out of our integrated management system (IMS) and began recording our Scope 3 emissions in the upstream and downstream supply chain.



2024

CONCRETE STEPS TOWARDS SUSTAINABILITY

E ENVIRONMENTAL
 Among other things, we will convert another location to LED, put another PV system into operation and work consistently on reducing our waste volumes. We have an annual budget of at least 1% of EBIT available for this – in 2023, we significantly exceeded this target and even

spent around 10% on investing in sustainable measures! We will also continue to work hard on our CO₂ target, as we want to be CO₂-neutral in Scope 1 and Scope 2 and partly Scope 3 by 2029. That is why we have been supplying our German locations with 100% green electricity since 2023 and with biogas instead of natural gas since 2024

and are consistently expanding our own electricity generation via PV systems. Our vehicle fleet is constantly being electrified and our data collection is becoming more detailed. In 2024, we want to make significant progress in recording our Scope 3 emissions and acquire a suitable software solution to support this.

S SOCIAL
 In this area, we are focusing, among other things, on offering our employees a safe, ergonomic working

environment and constantly expanding our health management offering and – with external support – making it as varied as possible. We have also set ourselves the

goal of implementing a learning management system (LMS) in 2024 and want to make this available to our international employees by 2026.

G GOVERNANCE
 Continuous improvement in the ESG and CDP rating, for example, is still on the list of measures. The imple-

mentation of mandatory Code of Conduct training for our international employees is also being tracked here – we have already been able to train around 75% of our inter-

national workforce. The international roll-out of our IMS and the best possible use of our annual sustainability budget are also being driven forward.



Further examples and details of our sustainable activities can be found in the current Kurtz Ersas Sustainability Report 2023.



Changes to the Global Board from July 2024

As part of a regulated succession, the Advisory Board has two changes to announce on the Global Board: **Dr. Michael Wenzel** stepped down from the management of Kurtz Ersä Automation GmbH and SCHILLER AUTOMATION GmbH & Co. KG, but will continue to be available for handover and advice. **Hubert Baren** succeeded him as Managing Director responsible for the Automation business unit with all compa-

nies on 01.05.2024. Mr. Baren has been very successful in the global electronics automation environment for decades and brings this expertise and his international sales experience to the Global Board.

As agreed, **Ulrich Bühlmann** resigned from the Management Board of Kurtz GmbH & Co. KG and Kurtz Holding GmbH & Co. Beteiligungs KG and will also continue

to be available for handover and advice.

Andrea Carta succeeded him as Managing Director responsible for the Moulding Machines business unit with all companies on 01.07.2024. Mr. Carta has been active in the global context of the injection molding machine industry for decades and brings his extensive expertise in the development of international markets to the Global Board.

The Global Board will be composed as follows from 01.07.2024:



Thomas Mühleck,
Chairman



Dr. Michael Fischer,
Electronics Production
Equipment



Hubert Baren,
Automation



Andrea Carta,
Moulding Machines



Bernd Schenker,
Asia



Albrecht Beck,
Americas



New Advisory Boards in the Kurtz Ersä Group

At the Advisory Board meeting on Friday, March 22, 2024, Rainer Kurtz, Chairman of the Advisory Board, welcomed the new Advisory Board members. Following the departure of Bernhard and Walter Kurtz, Carolin Kurtz, our Head of Central Finance & Controlling, and Magdalena Kurtz took their places. Ms. Simone Berger, Chief Human Resources Officer of the Stada healthcare group, and Dr. Dirk Löbermann, COO Eppendorf, joined the Kurtz Ersä Advisory Board as new "external" members.



From left to right: Dr. Armin Kunz, Simone Berger, Dr. Dirk Löbermann, Rainer Kurtz (Chairman), Carolin Kurtz, Frank P. Averdung, Magdalena Kurtz



Strong alliance across national borders and continents – at the soft opening in Ciudad Juárez, Mexico

New Kurtz Ersas Manufacturing Facility in Mexico Inaugurated *Grand Opening to follow on 09/17/2024*

At the “Soft Opening” in mid-April, the management of Kurtz Ersas México received a good impression of the factory building. Kurtz Ersas Mexico Manufacturing has over 4,500 m² of production space, offices, and a demo center. “It was impressive to see how much space the new hall offers for further growth. We are pioneers in the North American market for the nearshoring of soldering machines – our customers are already waiting to receive the proven Ersas quality and technology on site. We are creating one of the most modern manufacturing facilities in Mexico and we are convinced that this step will be a great success,” said Albrecht Beck, President & COO of Kurtz Ersas, Inc. (KEI), responsible for the Americas business in the Kurtz Ersas Group.

With the opening of the new production facility in Ciudad Juárez we are expanding our capacities in Mexico, this in addition to the existing service and logistics cen-

ters in Plymouth (Wisconsin, USA), Dallas Fort Worth (Texas, USA), and Guadalajara (Jalisco, Mexico). Juárez is established as the third service and logistics center in North America. The technology transfer from Germany to Mexico was a key part of the expansion, enabling Kurtz Ersas customers to be served even more competently thanks to the growing Mexican team.

The new production facility in Ciudad Juárez plays a central role in the production of Ersas soldering machines and serves as pre-production for the U.S. Kurtz plant. Initially, the plant will focus on the production of Ersas HOTFLOW reflow soldering systems. “Given the rapid growth in the Americas, local customers will be better served by the new production facility in Chihuahua, the CO₂ footprint will be minimized, delivery times shortened, and freight costs reduced,” explained Albrecht Beck, CEO of KEI, regarding the planned business in the Americas.





Welcome backdrop with some of our Chinese team members

New Horizons

Kurtz Ersa's Strategic Move in Vietnam

Vietnam is rapidly becoming a crucial hub for the electronics manufacturing industry, and Kurtz Ersa is seizing this opportunity to expand its footprint in this dynamic market. Recognizing the strategic importance of Vietnam, particularly in the north where a new cluster of Electronic Manufacturing Services (EMS) is emerging, Kurtz Ersa is making significant investments to enhance its presence and capabilities in the region.



New Application and Demo Center in Bac Ninh, Vietnam



Participants of the Southeast Asia Sales Meeting



Lion Dance for blessings and prosperous business



Drum performance ensuring blessing and good spirits in the new home

The decision to invest in Vietnam is driven by the evolving market landscape and the increasing demand from key accounts for on-site presence. Our diverse customer base in Vietnam necessitates multilingual support, and Kurtz Ersas is well-prepared to meet this demand with services available in Vietnamese, English, Chinese, and Japanese for training sessions and know-how seminars. This linguistic versatility ensures we cater effectively to our customers' varied needs, strengthening our relationships and enhancing customer satisfaction. Our expansion strategy aligns with Kurtz Ersas' "local for local" approach, which emphasizes short and efficient ways to support sustainability and ensure rapid response times and attractive landing costs for our customers. This approach is part of Kurtz Ersas' robust global footprint, with production facilities in Germany, China, and Mexico. Our production site in South China, just 1.5 hours flight from Hanoi, exemplifies this efficiency, enabling us to meet the demands of the competitive Asian market effectively.

New Application & Demo Center in Bac Ninh

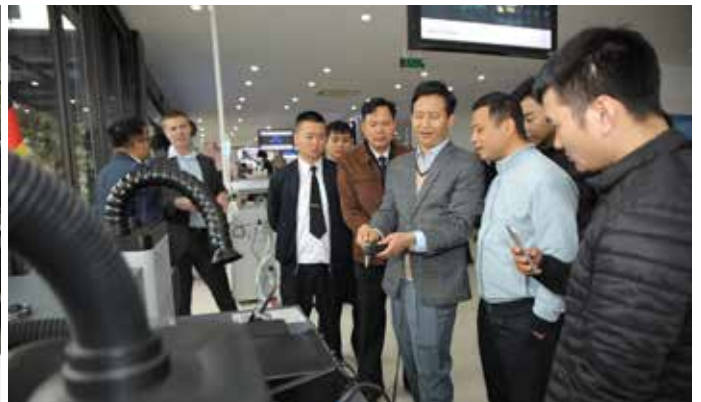
To further strengthen its position in Southeast Asia, Kurtz Ersas opened its new Application & Demo Center in Bac Ninh, Vietnam, in Q1/2024. The state-of-the-art facility was inaugurated during the two-day Southeast Asia Sales Meeting, which brought together sales and business partners from across Southeast Asia and China. The meeting featured in-depth sessions on market trends, strategic planning, product innovation and customer service excellence, and provided a fitting backdrop for the presentation of our latest investment. Spanning over 1,000 square meters, the new Application & Demo Center includes a 500 square meter exhibition space, training facilities, meeting rooms and spare parts inventory. Equipped with the latest electronic production equipment, the center provides a hands-on experience for our customers and partners, reinforcing our commitment to excellence. "We are immensely proud of what we have achieved with this Demo Center," said Bernd Schenker, President of Kurtz Ersas Asia. "It

represents our unwavering commitment to innovation, excellence, and customer support. I would like to extend my gratitude to everyone who played a part in turning this vision into reality, especially our Operations Manager, Vic Le Thuy, our Service Manager, Perkas Raman, and our Director of Sales and Marketing, Ulrich Dosch." In addition to serving as a demonstration and training facility, the new center also marks the beginning of strategic local alliances tailored to the Vietnamese market. Kurtz Ersas Vietnam has signed a collaboration agreement with Fuji Machine Vietnam to sell Kurtz Ersas in-line machines in Fuji's turnkey projects. Fuji Machine Vietnam will also install a pick-and-place machine in the demo center to create a full-line solution for customers and potential clients to evaluate coordinated and aligned machine performances in a fully connected SMT line.

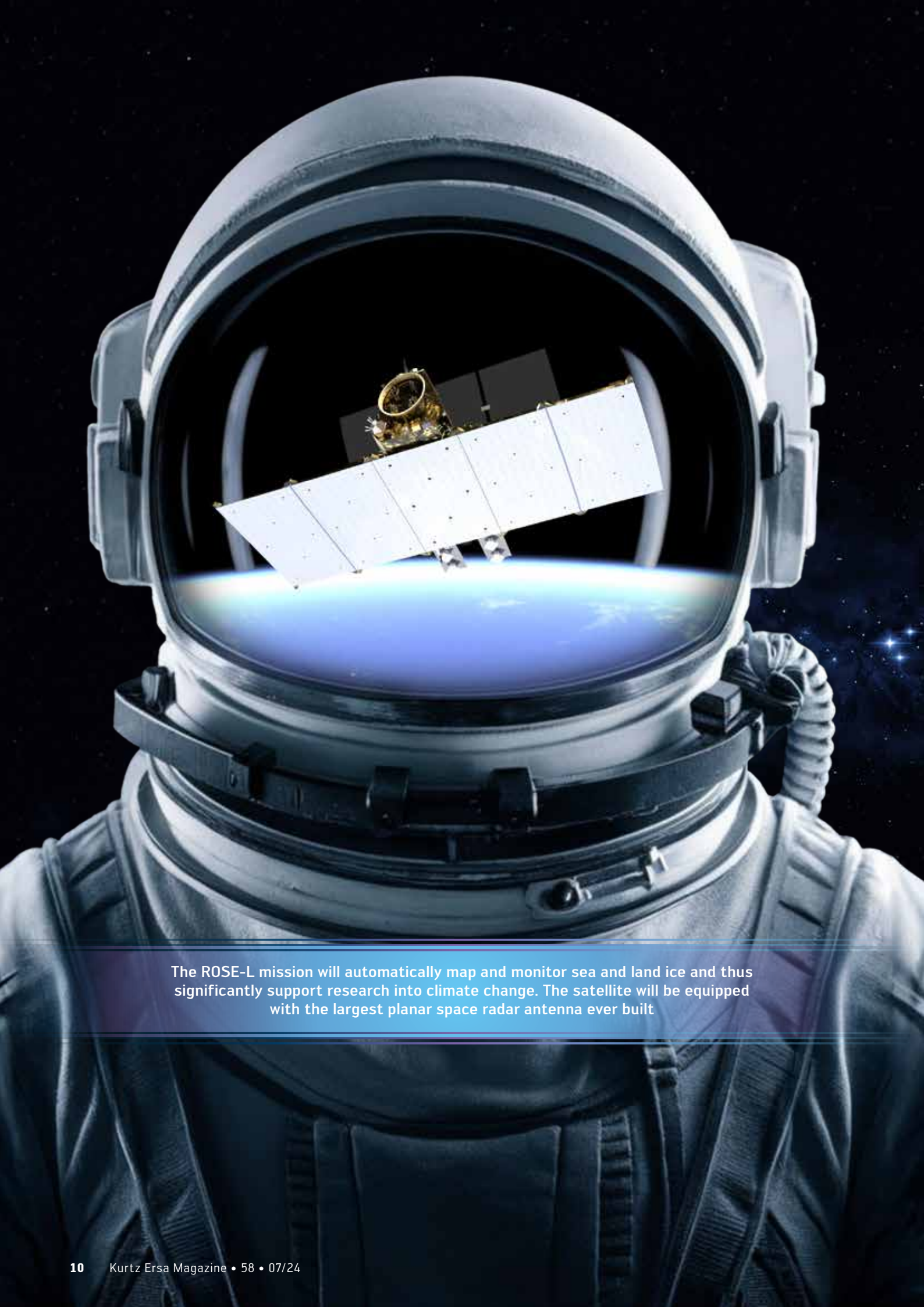
This new center is a significant milestone for Kurtz Ersas in Vietnam, underscoring our dedication to our purpose of optimizing our customers' production processes – Global. Ahead. Sustainable.



Seeing is believing: hands-on in the show room



Our sales partner from Newgenco explaining the soldering equipment in Vietnamese



The ROSE-L mission will automatically map and monitor sea and land ice and thus significantly support research into climate change. The satellite will be equipped with the largest planar space radar antenna ever built

Completely released — ROSE-L mission in space

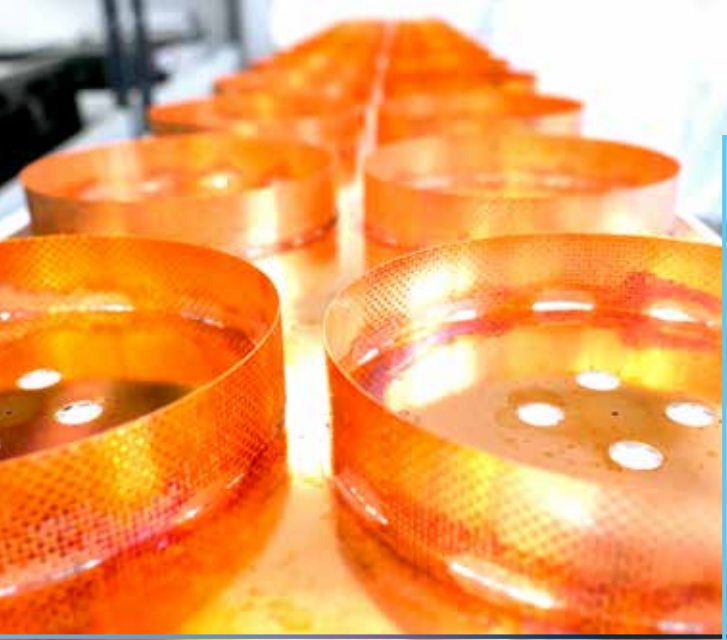
Airbus Immenstaad is supported by Ersa in satellite construction

With an endless pioneering spirit, Airbus has been driving sustainable innovation in the aerospace industry for decades. Time and again, the Airbus team has succeeded in pushing the boundaries of what is possible in aerospace. As part of a highly complex project of the European Copernicus space program, Ersa GmbH was called in to develop a sophisticated application based on an ECOSELECT 2 selective soldering system together with the engineers from Airbus Defence and Space.

→ On December 3, 2020, the contract for the development of the environmental monitoring mission "Radar Observing System for Europe in L-band" (ROSE-L) was signed. ROSE-L is an important part of the Copernicus program of the European Union (EU) and is co-financed by the European Space Agency (ESA). Thales Alenia Space is the prime contractor for the mission, while Airbus Defense and Space is supplying the highly-sophisticated radar instrument. Scheduled for launch in 2028, ROSE-L will provide continuous day-and-night monitoring of the land, oceans and land ice, frequently delivering high spatial resolution images from an altitude of 690 km. During its 7.5-year lifetime, the ROSE-L mission will provide important information on forests and land cover, contributing to

improved monitoring of the terrestrial carbon cycle. The mission will improve the detection of even the smallest surface shifts and potential geohazards. Designed for the 1.25 GHz range, the two satellites (No. 2 will follow in 2030) of the ROSE-L mission will usefully complement the Sentinel-1 satellites (5 GHz) already active in space with their new functions and capabilities.

ROSE-L will automatically map soil moisture and monitor sea and land ice, which will benefit climate change research and mitigation. It will also be possible to measure soil moisture as well as plant and species identification (good support for agriculture, for example) and could also be used in the event of natural disasters – with completely open data access for users. →



Soldered ring segments on the groundsheet



Fully-assembled subarray with 24 ring structures

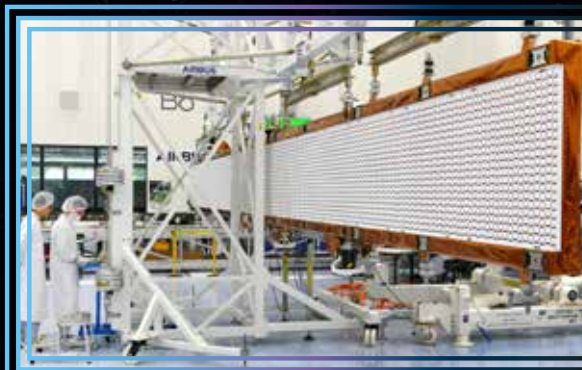
Airbus Defense and Space builds radar antenna for ROSE-L

→ Shortly after the contract was signed, the project wheels also started turning at Airbus Defense and Space in Immenstaad at the end of 2020, where production of the radar antenna is based. This is not just any radar antenna – at 11 m x 3.6 m, it is the largest SAR planar antenna ever built. The challenge was to develop a new, innovative radar antenna concept consisting of 60 individual boards measuring 2.2 x 0.3 m using lightweight materials. The antenna surface is three times larger than that of the previous flagship satellite Sentinel-1, whereby

the weight of the antenna must not exceed 700 kg as before. A classic case of a sandwich structure with high rigidity and low weight – the centerpiece in the middle: the high-frequency distribution network with a wafer-thin circuit board. Five segments with a total of 60 individual boards, each weighing 2.5 kg, are required per satellite – with a certain reserve (for demonstration and measurement purposes), production amounts to a total of around 135 assemblies with almost 39,000 individual soldered joints. →



2.4 m long product carrier, milled from a single piece and fitted with an assembly



Sentinel-1C antenna unfolding test

Functioning lightweight solution

→ Christian Lausch, the responsible development engineer in the Airbus Mechanic & Mechatronic Development Engineering department, and his colleague Harald Arlt, who has been with Airbus for 14 years, put all their expertise into developing a functioning lightweight construction solution. The original idea was to use vapor phase soldering – in principle, this would have been possible. The disadvantage was that the 2.2 m long board would have had to be segmented, which would have resulted in a loss of strength. However, it was also clear that the later application would “see” space and therefore be exposed to considerable temperature fluctuations and external influences. Unlike satellite electronics packed “on board”, for example, which are still surrounded by a protective shell even in space. The Airbus experts therefore decided against the vapor phase soldering process, as the application they were looking for had to offer the greatest possible resistance. The search continued – and they found what they were looking for in the existing machinery in the company’s own clean room production facility, which had been used until recently to produce flight electronics (circuit boards and onboard systems). After this production was relocated internally, the machines were returned to Development Engineering. Among them was an ECOSELECT 2 mini-wave selective soldering system – after a brief analysis it was clear: width fits, height fits, perhaps Airbus could use it to produce the required assemblies measuring 2.2 m x 0.3 m and only 0.4 mm thick in conjunction with a low-temperature solder?

This was the time to get in touch with the soldering machine manufacturer Ersa – and to obtain an assessment of whether the planned project was feasible. Things quickly got rolling, and in January 2021,

work began on the specification of a test setup for a feasibility study, with an initial series of tests taking place at Ersa from March onwards, including slots and strips, solder joint geometry, workpiece carrier plus hold-down device, solder selection, soldering parameters and motion sequence. In September, a second series of tests started at Airbus – with a new test board with four rings in the original design, a new product carrier for the ring design including hold-down device and ring slots in different geometries. At the beginning of January 2022, the final soldering tests were carried out in Wertheim using a tin-bismuth solder. These were successful, paving the way for Ersa to be commissioned to con-



Airbus Friedrichshafen

vert the ECOSELECT 2 system, including the design and construction of a suitable 2.4 m long product carrier. “The challenge was enormous, as we were not dealing with a classic through-hole plated PCB, but a 0.4 mm thin high-tech CFRP substrate, fully copper-coated, without solder resist. The length of the slots at 20 mm raised a number of questions as to whether this could actually be soldered in a single process. We have already soldered a wide variety of geometries. But this project was also new territory for us. We knew from other projects that the solder tends to flow anywhere with large copper surfaces – just not to the planned location. But we actually

managed to do it in close cooperation with the Airbus team,” says Jürgen Friedrich, Head of Application Technology at Ersa, who has been with the company for over 25 years. In July 2022, Ersa finally completed the plant conversion at Lake Constance, which included switching from tin-lead to tin-bismuth. One of the major challenges here was adapting the system control for processing the 2.4 m long product carrier in a single pass. Ersa thus supplied a complete system for an unusual application and successfully commissioned it on site.

60 soldered ring segment assemblies are required for the five-segment radar antenna of a ROSE-L satellite and are produced on the Ersa ECOSELECT 2. Each satellite requires 1,440 individual rings, each with twelve soldered slots. When both satellites – offset by 180° – orbit the earth at an altitude of 690 km from 2030, they will provide a complete scan of the earth every six days – and valuable data to react promptly to short-term changes. “Looking back, it is quite remarkable how quickly we have come to a solution. We are now close to completing the qualification phase and will be starting flight

part production in spring, which will take place over a period of around two years – thanks again to the Ersa team, in particular Jürgen Friedrich and the sales and process engineers Mark Birl and Lothar Rodemers, who contributed to the implementation of this application,” says Christian Lausch during the final visit to cleanroom production. From the grandstand, the view wanders down to the production area, where the two-tonne satellites to be completed hang like bats from the cargo crane – with folded solar cell wings to generate energy, which they later unfold in the vastness of space to send important information back to the blue planet ...

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FUTURE SERVICES & ADDED VALUES

Ersa is turning from a system manufacturer into a full-service provider across the entire production process

Digital and smart features, interfaces and platforms are opening up numerous new opportunities for the industry. AI, Industry 4.0 and the Internet of Things are ensuring that traditional sectors such as mechanical engineering are currently in the midst of a transition from providing pure hardware solutions to supplying user-centric complete solutions.

As a system supplier, Ersa has long been convinced that providing high-quality systems or equipment alone is no longer sufficient. Ersa aims to enable its customers to always achieve the desired quality. This is how Ersa understands servitization: by supporting the entire process, in addition to offering high-performance machines – both analog and digital. Ersa has always offered worldwide sales and service so that our service and application engineers can respond to customer demands immediately and directly on site. Our state-of-the-art, automated distribution center in Germany ensures the supply of spare parts. It is supplemented by local warehouses, which are constantly expanded. Modifications and retrofitting of existing Ersa systems is another area in which we maintain and enhance our customers' competitiveness and flexibility.

There is more to service than repairs and retrofits: training and education

The job market is not just a challenge here in Germany, but worldwide. As a result, insufficiently-trained personnel are operating the production machines in electronics manufacturing and have to assess complex production processes. This is where Ersa comes in by offering a comprehensive range of trainings and know-how



First-class service around the world can be ensured digitally

courses. The heart of the program is classroom training at all our subsidiaries around the globe, which include an application center. From basic to hand soldering and rework trainings on to several-day know-how seminars covering soldering machines and stencil printers – there is a seminar for almost every level of skills. Ersa also regularly organizes individual customer training courses taking place either at Ersa, but very often also directly at the customer's production site. In this way, the requirements of customer production can be precisely met with an adapted learning pace, individualized priorities, and specific examples.

E-learning with Kurtz Ersa CONNECT

The latest addition to the field of training and education is e-learning. This module of the Kurtz Ersa CONNECT platform enables learning across the globe. A common level of knowledge can be achieved and verified across different locations and time zones. Interactive and module-based courses, as well as an integrated system of examinations and certificates, make this possible.

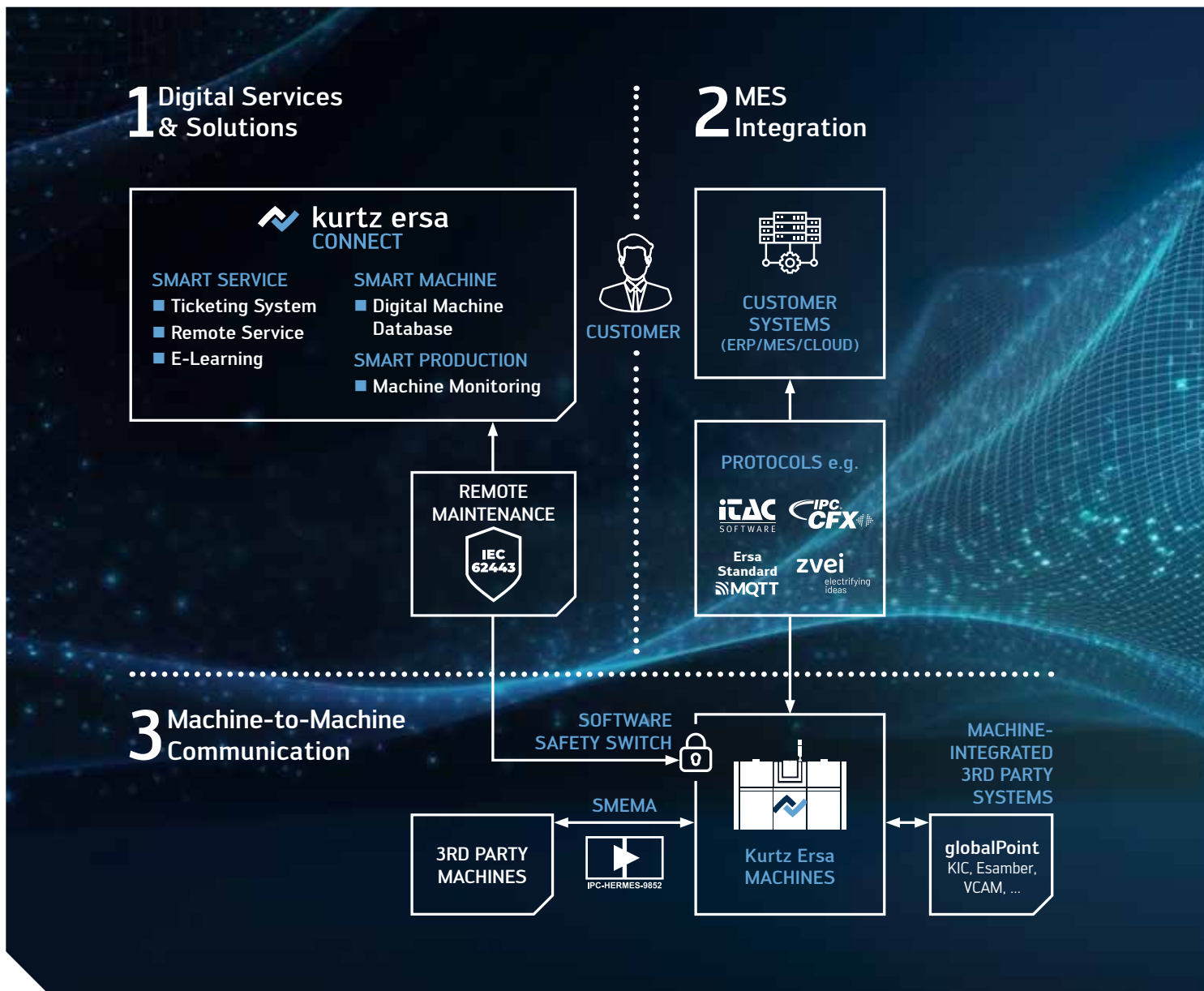
In addition to training, Ersa offers a range of process support services to assist customers in identifying the optimal solution. These services play a crucial role in enhancing the competitiveness of Ersa customers.

Digitization in the service field: Kurtz Ers CONNECT

Digitization is an important factor in the changing understanding of service. It has already significantly altered the processes in classic machine service. Ers recognized this many years ago already and with the new Kurtz Ers CONNECT platform, it is taking another consistent step forward in the digitization process. Many users and service technicians have experienced cases where hours have passed before they have reached an understanding of the problem, or until the service technician arrives on site. Today, this is solved via remote maintenance.

For this purpose, Ers has bundled various service modules into the Kurtz Ers CONNECT platform, thus networking man and machine. In addition to a digital machine database, in which all the customer's systems are listed, the ticket system offers true added value. It enables direct, better logging and transparent processing of service cases.

Thanks to the "Remote Service" module, the Ers service engineer can connect to the customer's machine from anywhere in the world and immediately gain an overview of the situation. The connection is realized by using the Kurtz Ers GATEWAY. Remote access only takes place after the customer has explicitly granted access. Due to the digital possibilities, the system is quickly ready for operation again.



The Kurtz Ers CONNECT ecosystem

The intelligent use of digital and analog service resources directly improves the efficiency and quality of service and production. Despite all the digitization, personal relationships remain extremely important to us. Ers is also personally available to customers 24/7

thanks to the Ers service hotline, available at +49 9342 800-136. Kurtz Ers Service Team works together with the customer to achieve highest throughput, best quality and availability in connection with the product requirement and machine configuration.

VERSAFLOW ONE X-SERIES



With two x-variable soldering modules and up to 4 soldering pots, the VERSAFLOW ONE XX enables high-speed throughput with high soldering quality at low investment costs

VERSAFLOW *ONE X*

High throughput at low cost

Cost pressure and competitiveness pose major challenges for electronics production, where decreasing quantities often come up against an increasing number of variants. Production is increasingly switching from traditional wave soldering to selective soldering processes, as these are more flexible and adaptable.

This advantage is making “selectives” increasingly popular. However, there was a gap – high throughput at low cost for SMEs. The VERSAFLOW ONE was developed to make these advantages accessible to a wider range of customers.

As an addition to the Ersa portfolio, it enables entry into the world of inline selective soldering systems at the price of a batch machine. All ONE systems are based on the same functional modules as the large VERSAFLOWS. This makes processes comparable for Ersa customers – whether batch system or high-end system.

Ersa has further developed the successful VERSAFLOW ONE in the direction of high throughputs. With the F series, only one solder pot per soldering module is possible, which can limit throughput in certain applications. The focus of the VERSAFLOW ONE X is therefore high assembly throughput at low cost. Previously, this required a VERSAFLOW 3 or 4 with double-track transport and several soldering modules. The ONE X solution: Two assemblies can be processed simultaneously in one transport system in the available working area of the fluxer, preheater and soldering unit. The working area of the ONE X enables a maximum assembly dimension of 610 x 508 mm (L x W). As such assemblies are rather rare, the working areas of the ONE X can optionally be divided into two separate processing areas. For this purpose, a second assembly

stopper is also installed on the transport system in each module. Although this reduces the processable assembly length to 350 mm, the overall throughput is doubled compared to the soldering system without this option. The VERSAFLOW ONE X with one flux and one preheating module as well as two soldering modules can thus process eight assemblies simultaneously – inline with just one transport system.

Throughput doubling with “second stopper”

An additional stopper doubles the throughput of the system in the fluxer, preheating and soldering modules. The distance between the two stoppers on the transport system is fixed at 400 mm. The assemblies are transported into the modules one after the other with a slight time delay. When assembly group one reaches the first stopper, the additional second stopper in the respective module closes and the following assembly group stops. When this position is reached, simultaneous processing of the two assemblies begins in the corresponding module. Once processing is complete, the stoppers open and both assemblies move into the free subsequent module and the next processing cycle begins.

The flux module

The VERSAFLOW ONE X generally has a flux module and is equipped with a multidrop spray head as standard. A second spray head with its own storage tank is available as an option. If the “second stopper” option is selected to increase the throughput, the second spray head is also included as standard.

The preheating

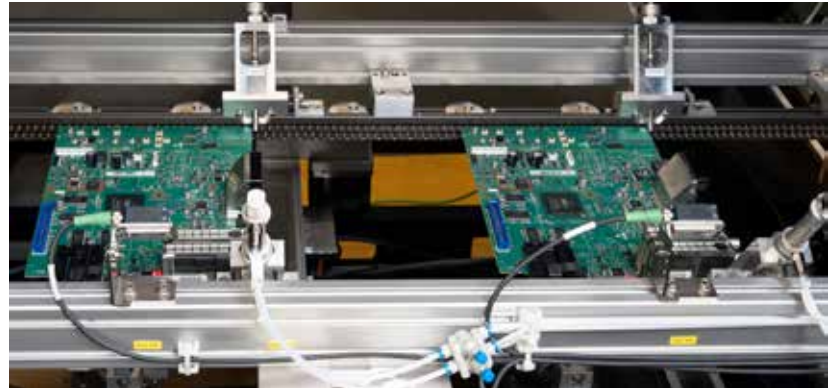
The ONE X is equipped with a preheating module for preheating the assemblies. The module is located below the transport system and is equipped with quartz radiant heaters. The output can be set in the range from 0 to 100 % in several time windows. A convection top heater can be installed in the preheating module as an option.

The soldering module

The soldering modules of the ONE X are generally equipped with two soldering pots, with a second soldering module available as an option. This means that the ONE X offers a maximum of four solder pots for the simultaneous processing of assemblies. The solder pots comply with the VERSAFLOW standard with maintenance-free induction solder pump, solder level control, shielding gas cover for the solder waves and optional solder wire feed.



Top: 4 PCBs with max. 610 x 508 mm in the VERSAFLOW ONE XX (3 PCBs with ONE X version); bottom: 8 PCBs with max. 350 x 508 mm in the ONE XX with second stopper (6 PCBs with ONE X)



The ONE X series is also available as a version with a second stopper, which doubles the throughput; 8 PCBs (ONE XX version) or 6 PCBs (ONE X) are processed in the machine at the same time – visible here in the flux module



With the VERSAFLOW ONE X, Ersa shows that there is still potential in selective soldering technology. The cost-effectiveness of the new product line with high throughputs combined with solutions in terms of networking and digitization is a clear statement to increase competitiveness – especially for SMEs.

Considerations on economic efficiency

The possible throughput of a simulated assembly (300 x 300 mm) with 25s processing time for fluxing, 30s preheating and 90s soldering is considered below. A batch selective soldering system ECOSELECT and the systems of the VERSAFLOW ONE series are considered in the analysis of the assembly throughput.

Selective soldering system	"Ersa ECOSELECT 2"	"VERSAFLOW ONE F"	"VERSAFLOW ONE FF"	"VERSAFLOW ONE X"	"VERSAFLOW ONE XX"
One soldered board every	145 s	90 s	45 s	45 s	23s
Max. parallel processing	1 pieces	3 pieces	4 pieces	6 pieces	8 pieces
Boards per hour	24 pieces	40 pieces	80 pieces	80 pieces	120 pieces
Boards pw 1 shift	192 pieces	320 pieces	640 pieces	640 pieces	960 pieces
Boards pw 2 shifts	384 pieces	640 pieces	1280 pieces	1280 pieces	1920 pieces
Boards pw 3 shifts	576 pieces	960 pieces	1920 pieces	1920 pieces	2880 pieces

Overview of the throughput of ONE series assemblies compared to a batch system: The ONE X throughput shown is based on the “second stopper” option, as the length of the simulated assembly is less than 350 mm. The potential of the ONE ranges from 320 assemblies per week in single-shift operation (ONE F) to 2,880 boards per week in three-shift operation (ONE XX)



Ersa HR 600 XL rework system: Automatic repair of complex assemblies of up to 625 x 625 mm with SC 600 AUTO SCAVENGER module

Ersa SCAVENGER:

Non-contact residual solder extraction

Further increased process safety for the repair of electronic assemblies

In the rapidly-changing world of electronics manufacturing, repair, touch-up, or rework of electronic assemblies, which includes the replacement of defective components on printed circuit boards (PCBs), has become an important and common practice. The following article will take a closer look at the removal of residual solder –

i.e., the professional preparation of the assembly before installing a new component. Preventing damage to the PCB is paramount, and extracting solder without surface contact is key to enhancing process reliability in the repair of BGAs and similar components.

Outset – component exchange

While a component is being desoldered from a circuit board, the solder in a joint melts unevenly. Depending on the temperature and condition of the component lead, some of it remains on the component, and a variable proportion of the solder sticks to the pad of the circuit board. A specific amount of solder must be defined for the new component to be installed so that the repaired assembly corresponds to the serial products in terms of function and reliability. Particularly with fine-pitch components and bottom terminated components (BTCs), the correct amount of solder must always be applied when replacing components. Both poorly wetted solder joints and those carrying too much solder bear the risk of subsequent failures.

So far, the remaining solder has often been removed manually to obtain uniformly pre-

tinned solder connections as a starting point. This is a time-consuming process which, depending on the qualifications of the person carrying out the work, is not al-

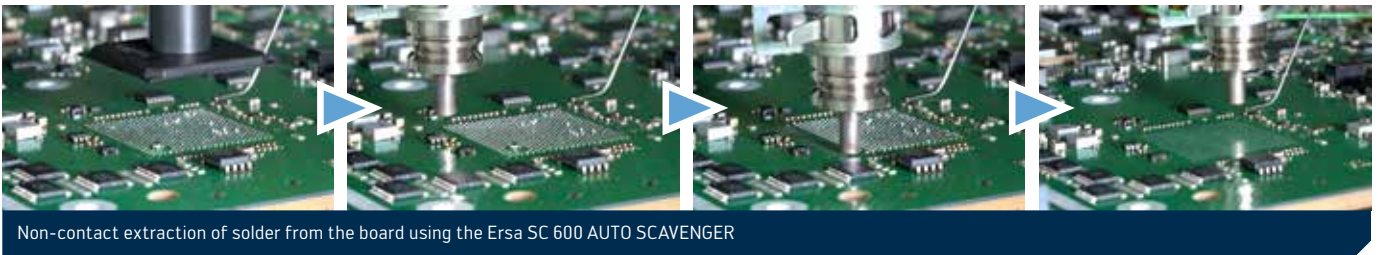
ways free of errors. Quite often, scratches in the solder resist will occur, or even torn off solder pads. Today, automated, non-contact solder removal is favored in most cases.

Possible disadvantages of contacting solder removal:

- Reliable only if handled by specialist personnel trained in the use of soldering irons
- Suitable soldering tips for optimum heat transfer and pick-up of solder
- Correct temperature setting on the soldering station
- Uneven cleaning, as it is done manually and not a continuous process
- Damage to pads or circuits, special care required with desoldering wicks (sticking/tearing)

Advantages of non-contact solder removal:

- Solder is extracted without touching the board with any kind of equipment
- Gentle thermal process using inert gas (N₂)
- Even cleaning which is also faster
- Process can be automated which renders it largely independent of the operator
- Harmful flux vapors are partially extracted (solder fume extraction is also recommended)
- Different nozzles, subject to the application

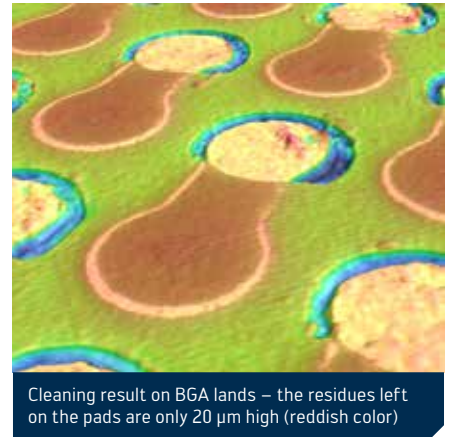


Non-contact solder removal

The main productive advantages of non-contact extraction of residual solder are, firstly, that the assembly's surfaces are not scratched, i.e. there is no mechanical stress. Secondly, the solder extraction process can be carried out very quickly, continuously, and automatically. As a result, the thermal load is also moderate and the cleaning result is very uniform.

With the most common systems, either the working height of the extraction nozzle above the PCB can be fixed or a distance control system ensures that a defined working

height is maintained. Depending on the component whose residual solder needs to be removed, a suitable extraction nozzle is selected, and the desired track movement is predefined for automatic systems: for example, linear tracks for QFPs or a meandering track for ball grid arrays (BGA). For larger BGAs, a rectangular nozzle can be used, which cleans a wider strip at the same speed as the standard nozzle, thus accelerating the process. For a component with a side length of 44 mm, the processing time is cut from approximately six minutes to about half.



The Ersa SCAVENGER units are fully integrated modules

The Ersa SCAVENGER units are fully integrated modules and can also be retrofitted to the respective rework systems. They work with a hot gas heating that is independent of the rework system. Preheated nitrogen is used to remelt the solder locally. To ensure the gentlest possible heating, the bottom heater of the rework system keeps the assembly at an adjustable preheating temperature. Finally, the integrated vacuum nozzle extracts solder residues and flux from the solder joints and discharges them into a collection container and process gas filter.

Settings and parameters for automated extraction of residual solder:	
Parameter	Typical values
Assembly preheat	150 – 180 °C
Nitrogen temperature	approx. 260 – 280 °C
Nitrogen volume	approx. 25 – 30 l/min
Speed	1 – 2 mm/s
Distance from board	approx. 200 µm
Flux	present/not present
Solder condition	alloy, degree of oxidation

Prior to component re-soldering

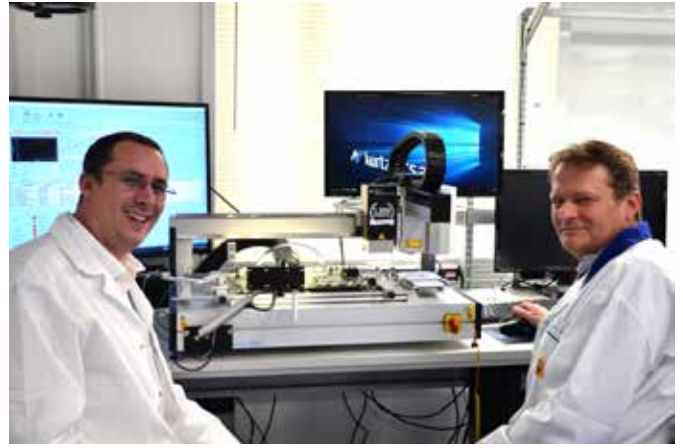
Before a new component can be placed and soldered, the solder volume removed during cleaning is refilled. This is not only important for uniform solder joint formation: The new solder deposit also contributes to homogeneous heat transfer. The added flux removes the oxide layers created during desoldering and cleaning. The new component can be printed with solder paste or dipped

in solder or flux paste (in the case of BGAs). Solder paste can also be applied with a dispenser or printed onto the assembly using a stencil. However, the latter methods can take a long time and be inconvenient due to limited space. In addition, solder paste can melt if the assembly is still warm. Ersa's Dip&Print Station allows the components to be prepared easily and efficiently so that

a new installation is always successful. Ersa already offers additional modules for non-contact residual solder extraction for its rework systems. These can also be retrofitted to existing machines. The SC 550 SCAVENGER is suitable for the HR 550 and HR 550 XL rework stations. The SC 600 AUTO SCAVENGER is available for the HR 600 XL and further systems to come.



With the Ersas HR 600/2 rework system with serial number 1,000, Analog Way has chosen a successful product. Martin Dosch, Export Sales Manager at Ersas (left), presented a certificate during the installation of the device and wished the Analog Way team all the best for the company's future success



The Analog Way team is delighted with the new rework system, allowing the replacement of components ranging from 1 mm to 60 mm without any additional accessories

French Manufacturer Analog Way receives 1,000th Ersas Rework System HR 600/2

Eric Delmas, CEO of Analog Way, is beaming all over his face as he receives the Ersas delegation. There are several reasons for his engaging smile – for one thing, Cyril Decombaz and Martin Dosch have come together with Jörg Nolte to congratulate Analog Way on the acquisition of the hybrid rework system with the serial number 1,000. On the other hand, the company can look back on a great success story and sees itself in an excellent position for the future.

Analog Way, based in Antony, south of Paris, develops professional audiovisual equipment. Behind the name LivePremier™, for example, is a complete range of modular and scalable multi-screen presentation systems and video wall processors able to drive pixel canvases up to 32K.

The systems are specially developed to meet the highest requirements in mission-

critical applications. The modular design of these high-end devices allows easy exchange of input and output cards to suit numerous connectivity options and their source and display demands.

The fields of application are as diverse as they are unique – video walls at Times Square in New York are controlled with Analog Way systems, as are backwalls for television or cinema productions. Users include event technology companies, casinos, museums and operators of gigantic video advertising spaces or control centers with their complex display systems and modern engineering centers.

According to Eric Delmas, acceleration of end market diversification is one of the foundations to Analog Way's booming success. Founded in 1989, the company has developed steadily. Now with over 100 emp-

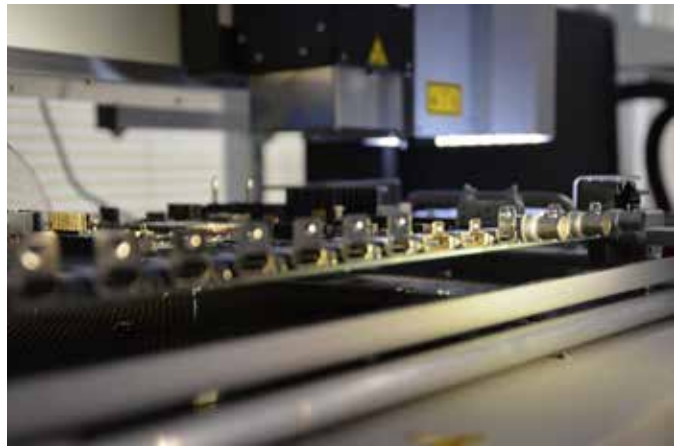
loyees and an international presence, it has experienced dynamic growth in recent years, well ahead of the general market trend.

It is therefore understandable that Analog Way seeks to strengthen its expertise in product maintenance. The company considers itself well-positioned to continue the development and maintenance of its products in Europe and aims to invest by equipping its own site. It is in this approach that the HR 600/2 repair system from Ersas was recently purchased, with the mission of both repair and research and development. Production Manager Hugues Marlard emphasizes that the company places great importance on speed and quality in both of these areas.

Although the Analog Way systems have a modular design and many installations are designed redundantly, things have to move



Analog Way develops modular and scalable multi-screen presentation systems and video wall processors for the highest demands



Change of HDMI connector on an electronic board of a Midra 4K product, operating with a temperature rise that meets the most demanding criteria of quality and reliability

quickly in the event of a repair. However, the quality of the repair is the top priority. With this in mind, the Ersa system was chosen on the recommendation of several partners of Analog Way.

In practice, both Ball Grid Arrays (BGA) and integrated circuits in Quad Flat Pack (QFP) as well as other types of housing are replaced on complex multi-layer boards. Repairs are also carried out on HDMI or Display Port connectors. Quite often, these component changes are initiated by the development department, which, for example, would like

to examine failed components more closely after cycle tests. With the help of the automated rework system, the in-house developers can retool or retrofit assemblies much faster than would be possible without such a device. A particular strength of the Ersa rework device is its high level of flexibility – components from 1 x 1 mm to 60 x 60 mm can be processed without any additional accessories. The HR 600/2's ability to successfully desolder or solder a component on the first attempt is also impressive. In addition to the automated rework process, this is also due to the precise temperature

control on the target component. Gentle and extensive heating of the assembly is a key criterion here.

"It is an honor for me to be at the head of a team in which innovative employees work together to realize extremely successful solutions – I am proud of what we have achieved so far as Analog Way and I am confident that we will continue to develop positively – thanks in part to the active support from Ersa," concludes Analog Way CEO Eric Delmas.

LivePremier™ offers versatile 4K digital connectivity, premium picture quality and ultra-low latency – ideal for large auditoriums, conference rooms, live events and sports venues



Know-how transfer close to the customer

Every year, system supplier Ersa installs hundreds of soldering systems around the world – with a direct transfer of know-how to customers and interested parties at technology days and/or trade fairs. In Europe, America and Asia. Here is an excerpt for the first half of 2024.



1 Czech Republic Technology seminar at PBT Rožnov

The traditional SMT ROŽNOV 2024 specialist seminar was once again held at our partner PBT Rožnov and was attended by over 100 guests. Day one was dominated by specialist lectures on electronics production. On the second day, the focus was on practical work – there were five workshops to choose from. The topic of rework was well received, as repairability and the possibilities for reworking electrical appliances are becoming increasingly important.

2 3 India Tech Days Hyderabad and New Delhi

The Tech Days of our spring edition kicked off in New Delhi, where we welcomed over 50 inquisitive participants with numerous technical presentations. We were supported by our partners Viscom and Interflux. The feedback in Hyderabad was also great – thank you to all participants whose interest contributed significantly to the success of the Indian Tech Days!





4 Austria

Stepan TechDays Vienna

On April 17 and 18, the Stepan TechDays took place in Vienna with over 70 visitors. Under the motto “ALL-ELECTRIC SOCIETY: Experience electronics in a new way – your future, our innovations”, customers and interested parties were given informative specialist presentations on high-performance technologies and current trends in electronics production. This was complemented by a hands-on exhibition and an exchange with experts.

5 USA

Strong performance at APEX

From April 9 to 11, Kurtz Ers took part in the IPC APEX EXPO in Anaheim, California, which was well attended by 2,000 visitors from all over the world. With the HOTFLOW THREE, which will be built in Mexico in the future, the company presented a high-end soldering system that offers the best reflow performance in every respect. At the trade fair, the VERSAFLOW ONE X-Series received the NPI Award in the “Soldering – Selective” category.



6 Spain

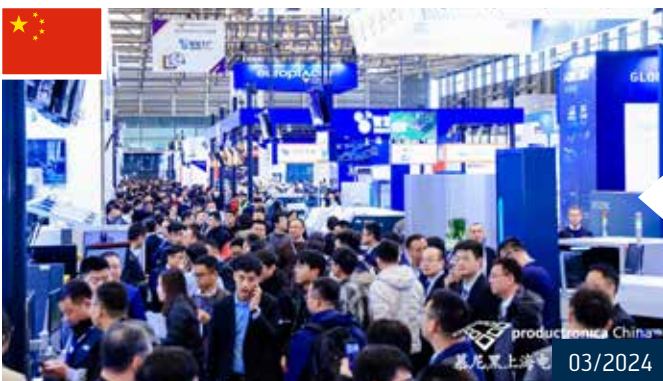
Open House at AB Electronic

AB Electronic welcomed over 50 visitors to its headquarters for the TechDays in April. The live product demonstrations with hands-on units were very well attended. One of the reasons for the event in Madrid was the considerably-enlarged exhibition space for Ers soldering systems and hand soldering stations for demo purposes and customer tests.

7 France

Global Industry Paris

Over four days in March, Kurtz Ers France invited visitors to its 100 m² stand to experience the latest Ers systems up close and get in touch with the team. The exhibits in France’s capital included the VERSAFLOW 4/55, the VERSAPRINT 2 ULTRA stencil printer, the i-CON TRACE IoT soldering station, the new MK2 soldering stations and the HR 600/3P rework system. There were many good discussions and constructive exchanges about the latest innovations.



8 Shanghai

Productronica China

With Productronica China 2024 in Shanghai, Kurtz Ers Asia (KEA) has taken a new direction in its market development in order to always be able to react quickly to technology requirements. With an increased focus on 5G application and the construction of e-charging stations, big data centers, artificial intelligence and industrial internet, the KEA team is now even more dynamic on the digital data highway!

Environmentally friendly RF Technology

PLANTERA ON SUSTAINABLE

Plantera GmbH has reached a significant milestone in the development of its still young company history: at the end of February, the company moved to new premises in Altfeld/Markt-Heidenfeld, not far from the Kurtz Ersä headquarters. The move not only marks a physical change of location, but also a phase of scaling and growth for Plantera GmbH.

The move opens up new opportunities for the development partner and customer of Kurtz Protective Solutions to optimize its operational processes and further expand its technological infrastructure in collaboration with Kurtz Ersä. The change of location will enable Plantera GmbH to make its processes more efficient and take itself to the next level as a producer of sustainable packaging solutions.

Expansion of the machine park to three Kurtz Shape Moulding Machines with RF technology

In cooperation with Kurtz Protective Solutions, Plantera already expanded its production capacities last year by integrating an additional shape moulding machine type WAVE FOAMER M. Thanks to the tool it

contains, the production rate has been increased many times over.

As part of the relocation and expansion of the site, Plantera has now put a third WAVE FOAMER M into operation this year. This new machine has been equipped with a special tool for the production of corn grit caps. These closures offer a sustainable and compostable alternative to conventional cork closures. The corresponding tool was developed in close cooperation between Plantera, Kurtz Protective Solutions, and T. Michel Formenbau.

Defining a standard product range to increase efficiency

In addition to expanding production capacity, which gives Plantera a significant advantage in meeting customer requirements, it



A COURSE OF EXPANSION



is equally important to standardize processes. This helps to reduce complexity and make workflows more efficient. Plantera GmbH has therefore decided to define a standard range for its CornPack products in order to strengthen and further expand its market presence. The range includes various products such as corner and edge protectors, thermoboxes, tins, corn semolina closures and transport and insulation boards.

The corner and edge protection products, for example, offer reliable protection against damage and are available in various sizes to suit numerous applications. The sustainable and innovative tins provide an alternative to conventional packaging solutions. The CornPack panels offer easy handling and are perfect as insulation panels or transport protection in various in-

dustries. Thermoboxes are a reliable choice for the safe transportation of temperature-sensitive goods. In the food sector, Plantera offers corn semolina closures that seal spice jars aroma-tight. These closures are perfect for various applications in the food industry.

The reliability, sustainability, and versatility of Plantera products make them the ideal choice for companies looking for sustainable packaging solutions. Despite the standard range, the Plantera team will continue to be available for individual products and projects. The move to new premises and the expansion of the product portfolio are decisive steps for the scaling and growth of Plantera GmbH. In addition, our partner can be very proud to have been awarded the gold medal as a young start-up in its

first participation in the EcoVadis Sustainability Rating.

This puts Plantera in the top 5% of all companies tested. The EcoVadis ESG rating evaluates companies worldwide in the sustainability dimensions of environment, labor and human rights, ethics, and procurement. This makes EcoVadis the largest provider of sustainability ratings for companies worldwide.

Together with our partner Plantera, we are looking forward to new challenges and further growth.



Plantera production hall



Plantera team

MORE ENERGY EFFICIENCY WITH CORELESS TECHNOLOGY

Kurtz Protective Solutions

If you want to gain a foothold in the established particle foam processing market and make your production efficient, you should use an economical system. With CoreLess technology from Kurtz, you get a system that is as powerful as it is sustainable for efficient processing!

When processing particle foams, everything revolves around the highest and most reproducible quality, the fastest possible cycle time and maximum energy savings. This is precisely where CoreLess technology comes in, with consistent mass reduction, minimum possible steam chamber volume and thermal decoupling of the individual cavities. A decisive factor: The energy balance is determined 1:1 by the mass that has to follow the cycle-related temperature cycle from welding to demolding temperature of the particle foam material to be processed. An x-fold mass reduction in the system therefore also results in an x-fold energy saving. The thin-walled "core-less" mold design not only gives the technology its name, but also saves a considerable amount of mass. Combined with the individual media connection from machine to individual cavities with optimized steam chamber volume, this ultimately leads to savings of up to 50 % in the process media (saturated steam, compressed air and cooling water). As a logical consequence, this is directly and significantly reflected in the production plant layouts of companies that use CoreLess technology. On the one hand, significantly less powerful media generators are required and, on the other, valuable space is saved in the production hall.

Sustainably-optimised manufacturing process

Kurtz Moulding Machines of the PRO FOAMER and POLY FOAMER types can sustainably ensure this optimized manufacturing process thanks to the direct media connection of the individual cavities, the reproducible, digital PID media control and the fast drive types (servo-hydraulic and electric drive). The tool technology was developed by our partner Doroteo Olmedo S.L. It has been successfully in series production exclusively on our systems since 2017 and has been continuously developed further. It is now in continuous use in numerous applications. Box and lid production, underfloor heating panels, facade and perimeter insulation panels, packaging parts and much more can be produced efficiently and flexibly.



The CoreLess technology is used in the Kurtz Moulding Machines PRO FOAMER or POLY FOAMER

Minimal use of media, shortest cycle time

In conjunction with the optional fully automatic tool adjustment, the order production of crates with different heights – or of panels with different thicknesses and with and without stepped rebate – can be fully automated without any set-up changes or operator intervention. And this saves material, without any cutting waste, as is the case with conventional EPS board production from EPS blocks. Thanks to particularly short cycle times, the technology also makes it possible to react quickly to unscheduled requests and process orders. In the production of series packaging parts, including for white and brown goods, the techno-

logy impresses with its minimal use of media and short cycle times.

Sebastian Schreck, Area Sales Manager at Kurtz Protective Solutions, on CoreLess technology: "Our customers need and want sustainable process solutions, but also maximum flexibility. Machines with CoreLess technology can be converted to a system with a normal steam chamber if required, should the application or area of use of the machine change. Whatever the specific application, Kurtz is always close to customer and market requirements with its technologies."



Fast drive types for CoreLess technology, shown here: Kurtz POLY FOAMER with electric drives



Rear press frame with media distribution



Many trade visitors at the AFS Metalcasting Congress 2024

Perfect meeting place for the foundry industry

AFS METALCASTING CONGRESS

in Milwaukee (USA)

The AFS Metalcasting Congress provides the foundry industry with trend-setting impetus every year. Kurtz Casting Solutions used the 2024 AFS Congress as one of the most important networking events for the North American region to raise awareness of Kurtz as a provider of highly-efficient casting solutions.

From April 23 to 25, the North American foundry industry gathered at the Metalcasting Congress of the American Foundry Society (AFS) in Milwaukee, Wisconsin. More than 2,000 participants and 200 exhibitors responded to the call of the AFS

to exchange information on foundry trends and efficient technologies. The congress offered an extensive program of events, including AFS workshops, varied presentations, and information on the current state of technical research. There were also pa-

nel discussions on improving casting processes, increasing the efficiency of casting processes and improving the quality of cast parts. All important processes and alloys were covered.



The VERSEVO team with Michael Müller (right), Sales & Product Manager at Kurtz Casting Solutions

Casting with lost forms is very popular

One of the main topics at the joint booth of Kurtz and its partner VERSEVO, Inc. was casting with lost forms, which are only used once because they have to be destroyed after the casting process to remove the cast parts. The advantage: the use of sand casting is cost-effective and can be implemented relatively easily. A big plus: even complicated geometric shapes can be produced using sand casting in conjunction with the low pressure casting process. Sand cores can now also be printed by 3D printers – the offer from partner VERSEVO provides particular advantages in the development of prototypes for GIGA castings which are used in the automotive sector, as well as for the production of small series for the security and defense industry.

Casting with “lost foam” was also of great interest to one trade visitor. The application here is a product that is manufactured for an outboard motor. The lost form is made from expanded polystyrene and serves as a positive model. The production of such a lost form can be carried out using a molding machine from Kurtz Protective Solutions. A perfect example of Kurtz Ersas’ cross-divisional optimum production solutions for its customers.

Strong partnerships – even more important in challenging times

In addition to participating in the trade congress with valuable discussions at the booth, Kurtz Casting Solutions also presented itself at the in-house event of partner VERSEVO at the Hartland site in Wisconsin, where it was possible to talk to interested parties in a relaxed atmosphere. At the in-house event, VERSEVO presented a 3D sand printer, while Kurtz took the opportunity to showcase a casting machine, a pre-expander, the Alpha 140, and a trimming press. This gave the in-house event participants a good impression of the Kurtz equipment portfolio. Not least thanks to the Kurtz Ersas Alpha 140, which demonstrated its capabilities in live operation. “The combination of a specialist congress and an in-house event was ideal for engaging in individual discussions with all interested parties, from technically-experienced to sales-oriented customers. Together with VERSEVO, we offer to the North American market efficient solutions for sand casting, which is currently on trend. Many thanks to VERSEVO for their hospitality and invitation to the in-house event,” summarized Michael Müller, Sales Manager Casting Solutions & Product Manager Low Pressure Casting.



The tree trunk nail game from the Spessart region was very well received at the in-house event



The trimming press Kurtz KPS1000 – an eye-catcher in the halls of VERSEVO



Well received: the Bavarian hat, the Spessart wild boar, and a ballpoint pen printed on the Kurtz Ersas Alpha 140

Development of the Additive Manufacturing Division

Dr. Astrid Rota has been in charge of the Additive Manufacturing (AM) business unit for nine months now. In the months under her leadership, the AM business unit has focused on the factor 'know-how'. To this end, technology development was explicitly strengthened and established as a separate unit alongside system engineering and software engineering, which continue to form the foundation for new business. Reliable system technology is the basis, but it is also necessary to assess what component quality can be achieved – intelligent process control plays a particularly important role here.

The focus of the dedicated AM team in the Kurtz Ersa Group is the further development of the Flying Ray large-scale printer – this will be set up in such a way that it can be customized. Thanks to "Perfect Angle Printing", the results achieved on a smaller test system can be

transferred very well to the large-scale system. The unit is already offering to produce customer parts on the current prototype system (1,500 x 1,000 mm [L x W]) in 316L material, for example. Material/parameter development according to customer requirements is also possible on test stands and test facilities – the results can then be transferred to the actual component, which can be much larger. All the knowledge gained in mechanical engineering is currently being incorporated into a pilot plant (1,000 x 1,000 mm), which will be specially designed for aluminum alloys.

"Our business unit is interested in development partnerships and external companies that require interesting components and want to benefit from the opportunities offered by additive manufacturing. Possibilities such as freedom of form, saving on joining technology or functional integration allow for a com-

pletely new component design. The Additive Manufacturing division can also support the current business of the other divisions by producing special parts and prototypes that accelerate product development," says Dr. Astrid Rota, Managing Director responsible for Additive Manufacturing.

The next opportunity to get an idea of the current state of development of Kurtz Ersa's Additive Manufacturing division will be at Formnext in Frankfurt am Main in November. You will find the Kurtz booth again in Hall 12.0 from November 19 to 22, 2024 – our AM team is already looking forward to your visit. And in the meantime, do not hesitate to get in touch with our AM colleagues directly!

Perfect Angle Printing



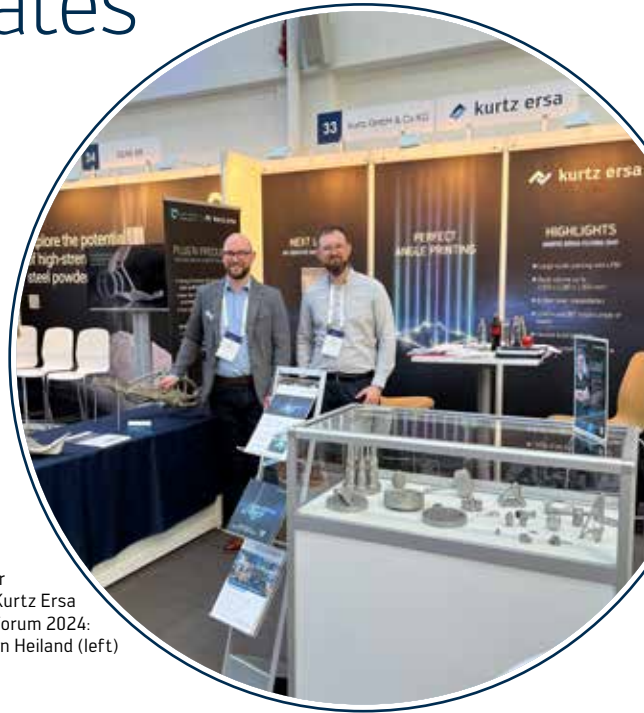
Kurtz Ersa's unique selling point: the "Perfect Angle Printing" production technology

Large Print Kurtz Ersä Flying Ray

3D printed Manta fascinates at AM Forum Berlin

The unique selling point of Kurtz Ersä's 3D printers is the "Perfect Angle Printing" manufacturing technology. This was very well received, not least at the Additive Manufacturing Forum in Berlin in March.

From March 20 to 21, Kurtz's Additive Manufacturing division was one of 53 exhibitors at the AM Forum Berlin, Europe's leading user conference and exhibitor platform for industrial additive manufacturing. The Kurtz Ersä Additive Manufacturing division presented its technological and mechanical engineering expertise with a large number of exhibits as well as in extensive and in-depth technical discussions. Visitors to the stand showed great interest in the entry-level model Kurtz Ersä Alpha 140, particularly praising the filigree structures that can be realized with the Alpha 140, which were used, among other things, in the bottle openers distributed as promotional gifts.



On hand to answer questions at the Kurtz Ersä stand at the AM Forum 2024: 3D experts Steffen Heiland (left) and Daniel Kubat

Manta ray as a crowd puller

A particular eye-catcher at the Kurtz Ersä stand and a much-noticed exhibit at the trade fair was the FlexiRay – a manta ray made of stainless steel with movable wing segments and a span of 620 mm, which was produced on the Kurtz Ersä Flying Ray prototype system. Kurtz Ersä's "Perfect Angle Printing" process, the almost right-angled laser beam and the constant distance from the optics to the powder bed combined with a large installation space met with recognition and positive feedback.

The Additive Manufacturing department returned to Kreuzweithem with plenty of positive impressions, new impulses from interesting discussions and many great presentations on industrial applications. The event provided the perfect opportunity to see familiar faces from the 3D community and make new contacts for future projects.



High-quality discussions made participation in the AM Forum Berlin a complete success



Numerous exhibits from Kurtz Ersä Additive Manufacturing showed possible applications



Kurtz Casting Solutions with ***GIGA Solutions*** at EUROGUSS in Nuremberg

At the 15th edition of EUROGUSS, Kurtz GmbH & Co. KG presented high-performance solutions for giga-casting. And was thus fully in line with the trend, as the demand for large-dimensional chassis and structural parts is increasing, especially in the automotive industry.

In addition to giga-casting, the trade fair focused on topics such as the sustainable use of resources, rapid prototyping, and efficient services. Kurtz Casting Solutions focused especially on the topic of energy saving. There is potential for savings at many points in the casting process – whether in the furnace system, pressure maintenance (low pressure) or riser pipe system. For example, a Kurtz casting line concept provides an energy-efficient shut-

tle transport system and avoids unnecessary internal transportation. Forklift traffic is eliminated, thus achieving a better CO₂ footprint. With an intelligent hydraulic system, energy is only used as required. The same applies to the use of cooling media via sensor-controlled cooling systems. These are all factors that have a direct impact on energy and operating costs.

Lothar Hartmann, General Manager of Kurtz Casting Solutions, expressed his satisfaction with the event: “With the low pressure technology, we offer a highly-efficient process for manufacturing chassis parts that outshines die casting and counter pressure die casting in many respects – that was well received.” With regard to trimming, he added: “Kurtz builds the fastest trimming presses on the market. Together with large clamping surfaces and high cutting forces in presses that have already been built several times, Kurtz solutions have everything that is needed for the ever-shorter



Lively discussions on individual solutions using low pressure casting and trimming technology took place



Reinforced by long-standing sales partners, Kurtz offered optimal support for interested parties and customers at its trade fair stand

cycle times in the die casting cell. Trimming directly in the die casting cell has further advantages: less logistical effort, a shorter trimming process, and an overall more efficient process flow.” The trade fair was a success in terms of both quantity and quality – Kurtz Casting Solutions will definitely be back in 2026!



International Sales Meeting – *“Listen to the Market”* Strategy Days of Kurtz Protective Solutions

Exciting presentations contributed to a successful sales meeting

Small group work: There was a lively discussion in the workshop sequences

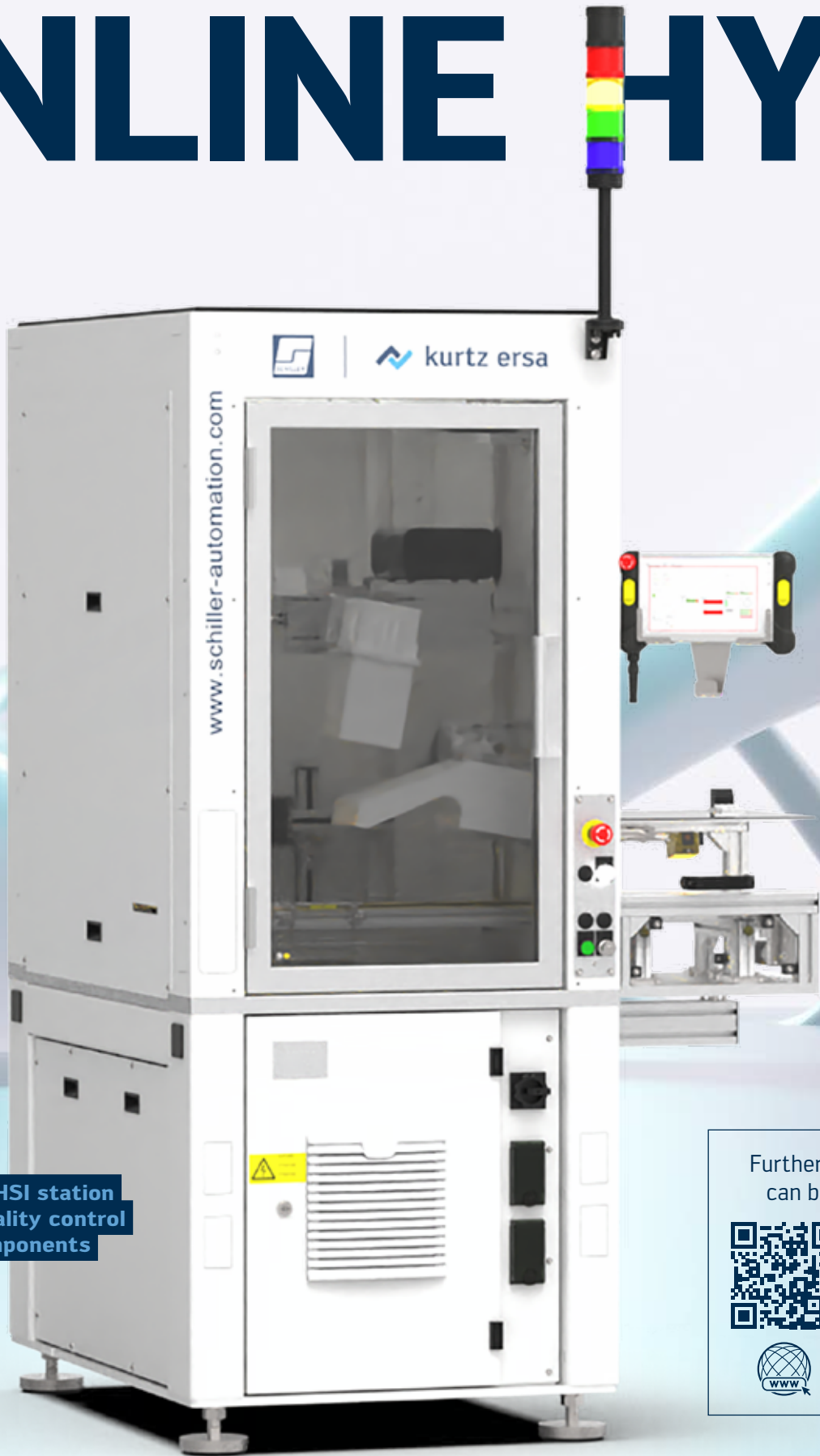
Two days were blocked in the Kurtz Protective Solutions sales calendar in March for strategy days. A lot has happened since the last sales meeting for particle foam machines. This was demonstrated by the many stimulating discussions between employees from the headquarters and international representatives. The participants accepted the invitation from the management and division management and traveled to Würzburg for the international sales meeting. The aim was to further develop the sales strategy together in order to secure and strengthen the market position in a competitive market for the future. CFO/CEO a.i. Thomas Mühleck welcomed the participants on the first day and made it

clear in his speech: “You are in a very strong company!” – a strongly positioned company characterized by collegial cooperation, a corporate strategy with three pillars, and financial independence. Ulrich Bühlmann, former Managing Director, and Stephan Gesuato, General Manager Kurtz Protective Solutions, then continued and introduced the meeting’s agenda. The latter has been defining the strategic and sales orientation for two and a half years now. The international sales meeting was characterized by a good mix of presentations and workshops. The content included status reports on the sustainable technologies radio frequency, CoreLess and THERMO COATING, and gave an insight into the “Application, Demo, Pro-

cesses” department. The Holding’s division “Accounting and Treasury Operations” also presented new financing models. The sales regions brought each other up to date with market reports from the Americas, Asia, and EMEA in order to raise awareness of the global perspective. The workshops provided feedback and ideas on the service and product portfolio. Despite the current challenging economic situation worldwide, global growth of over 15% is forecast for the particle foam market, so Kurtz Sales also sees good opportunities for its own business.



INLINE HYPE



**Inline HSI station
for quality control
of components**

Further information
can be found at:



HYPERSPECTRAL INSPECTION

Hyperspectral inspection (HSI) is increasingly being used to check electronic components. SCHILLER AUTOMATION has developed an inline station for a customer that checks components for adhesions after the cleaning system.

Hyperspectral imaging captures information about the electromagnetic spectrum in a broad wavelength range. In this way, defects, contaminants, or other anomalies in the components can be identified that may be overlooked by conventional visual inspection techniques. The resulting data sets can be used to identify material differences and assess the chemical composition of materials. Any impurities present are reliably detected. This allows for more precise quality control and early detection of potential problems, which ultimately improves product quality and reduces downtime.

SCHILLER AUTOMATION has developed an inline HSI station with an integrated conveyor belt to achieve this quality objective in production lines with high throughput. The system accepts workpiece carriers with the components inside via a SMEMA interface (belt-to-belt transfer) and positioning in the pre-position. Here, the Data Matrix Code (DMC) of the workpiece carrier is recorded and its contents temporarily stored. An X/Y/Z handling system takes over the workpiece carrier and positions it under the camera. The camera is automatically triggered after positioning, the workpiece carrier is moved and placed back on the belt after the pick-up has been completed.

The hyperspectral camera takes line-by-line images with different spectral channels between 400 and 1,000 nm wavelength. In addition, the control system, in conjunction with the MES (Manufacturing Execution System) and a big data storage system, ensures traceability and enables the data to be evaluated in parallel. In the

first application, chips are checked after passing through a cleaning system to validate the success of the cleaning process. The very early detection in the production process avoids high follow-up costs. In the meantime, several follow-up orders have been placed as the concept has proven itself in practice.



Interior view of the HSI station from SCHILLER AUTOMATION

Jochen Meinhof, Managing Director at SCHILLER AUTOMATION and responsible for sales and service, explains the HSI station: "One of SCHILLER AUTOMATION's special achievement is the development of customized systems for a wide variety of process chains. This is mainly done in areas of technologically highly-demanding tasks. The convincing and process-reliable design often leads to our customers reordering them several times and using them in a wide variety of areas. This is also

the case here, where very individual materials are processed on a workpiece carrier. Our thanks go first and foremost to our customers, who value this SCHILLER expertise and regularly challenge us with new tasks."

The design as an inline station allows the station to be integrated into almost any line production system. The product-specific evaluation of the generated data can be carried out either directly on the camera or offline. Customer-specific adaptations of the transport system or to other product dimensions are possible and are defined as part of the requirements analysis. SCHILLER AUTOMATION is able to individually plan and implement additional production equipment. Individually-planned and fully-interlinked production systems regularly leave the site in Sonnenbühl.



Kurtz Ersä Automation

Intelligent Handling Systems – Answers to Frequently Asked Questions

Kurtz Ersä Automation places for you from A to B. What exactly, plays a subordinated role. Whether it's a palletizing unit or components that need to be removed from a transport container and added to an assembly – our team has the necessary expertise to develop the right solution for your task.

As part of the concept development process, which always takes place in close cooperation with our customers, the aim is always to find suitable solutions for individual requirements. Our

sales team has compiled a selection of frequently asked customer questions and asked the Kurtz Ersä Automation concept engineering specialists for the right answers.



Question: For most customers, the decisive factor in the run-up to system construction is which cycle and autonomy times can be achieved with the desired concept, taking into account the respective framework conditions. How can the performance, that will be available later, be shown transparently before the system is built?

Kurtz Ersä Automation Concept Engineering: In the first step, our experts analyze the existing process in detail. Suitable solutions are then developed together with the customer. Depending on the task and implementation phase, we use concept drafts, 3D modeling or concept simulations. If necessary, processes can be visualized transparently as early as the concept phase. The resulting conclusions regarding the overall system cycle time, potential material flow bottlenecks, and other bottlenecks are taken into account in the solution concept.

Question: What determines whether the most suitable solution for me is a robot or a linear system?

Kurtz Ersä Automation Concept Engineering: Several factors play a role in the selection of a suitable handling system. If the customer wants to implement a product change on the production line in the foreseeable future, it is advisable to opt for a robotic solution. Often, only the modified product-contacting components (including gripper technology) need to be revised and replaced. The new product can then be produced with the revised existing system.

Does the customer already have experience with linear systems?

Are they familiar with their operation and maintenance?

Do the required degrees of freedom of the system permit a linear solution?

Can the joining direction of the component be realized with a linear stroke?

If the answer to these questions is "yes", we recommend remaining loyal to the linear system in the future, provided there are no technical disadvantages.

Question: What possibilities exist to give a handling system "vision" so that the assembly of the end product can take place smoothly?

Kurtz Ersä Automation Concept Engineering: It is essential to have the correct information on all required position data at all times. Both the components to be picked up and the desired storage location, which may be on a conveyor belt, for example, must be detected. Depending on the task, we use appropriate sensor technology, industrial image processing or 3D measurement. The selection is manufacturer-independent in order to be able to implement the right solution for every task.



Do you also have questions about process automation?

Andreas Fischer, Head of Sales & Business Development, and his team look forward to discussing your task!
info.automation@kurtzersa.de | +49 9342 9636-0

Historic Center CONVERSION OF MANOR HOUSE COMPLETED

The year 2024 began at the Eisenhammer in Hasloch with extensive construction work in the Manor House – the “Schwarzer Bock”, the catering location on the grounds of the Kurtz Ersä Historic Center, was to be renovated and modernized. The plan was to create an even more attractive environment for customer hospitality within three months.



As part of the construction project, the premises were enlarged to be able to cater for larger groups of up to 80 people. Existing elements – such as the bay window and the parquet flooring – were to be retained or reintegrated. The original construction time of three months was almost met and the first events were held in the newly-renovated guest room at the beginning of May. However, the Schwarzer Bock is not only used for entertaining customers, but is also regularly used for internal events. For example, the onboarding of new employees also takes place in the historic location. There is also a spacious seminar room in the Manor House – this was not directly affected by the renovation work, but also remained closed for this period due to the construction work. The Hammermuseum and hammer forge remained unaffected by the construction work and were freely accessible to external visitors.





Lively exchange over culinary delights



Rainer Kurtz presents the new Hammerwein 2024



Toasting in the new Schwarzer Bock

THE KURTZ ERSÄ HAMMERWEIN 2024 HAS BEEN CHOSEN!

Müller-Thurgau, a Franconian classic

The tenth Kurtz Ersa HAMMERWEIN competition took place on May 23 in the newly-renovated premises of the Schwarzer Bock against the historic backdrop of the Eisenhammer.



As every year, there were six fine wines to choose from, which had been tasted in advance by an internal jury and had thus made it to the final round. The finalists were two Rieslings, a Schwarzriesling, a Chardonnay, a Scheurebe and a Müller-Thurgau.

Rainer Kurtz welcomed the 37 invited guests from business, politics and the public as well as the shareholders, management and executives of Kurtz Ersa and then handed over the floor to Margitta Dosch from the State Research Institute for Viticulture and Horticulture in Veitshöchheim, who led through the evening as speaker and moderator. Her keynote speech was entitled "Viticulture in the 21st century – nature in harmony with technology and modernity", and she also spoke about the individual finalists during the tasting of the food and corresponding wines.

At 10:30 p.m., the result was clear and Rainer Kurtz announced the winner:

2022 Reicholzheimer First Müller-Thurgau dry Winery Ehrlenbach – Reicholzheim

Zum Wohl and cheers!



WORLDWIDE PRESENCE.

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Technology fan?

In the HAMMERMUSEUM the history of Kurtz Ersa comes alive – experience the enthusiasm for technology with which we are also successfully on the move in the 21st century. Please refer to our website for current opening hours.



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