



Clean room assembly in Taiwan

High performance from the full range supplier MBW

Economic production process

ERSA HOTFLOW 3 “Best in Class” Reflow technology

Reduction of CO₂ emissions

KURTZ Technology supports EPS processors

Reliable, fast and friendly

Worldwide customer service by KURTZ

www.kurtz.info

www.kurtz.de

www.ersa.de

The environment needs technology

At the moment we are often being asked: "You have a factory in China. Has it been affected by the terrible earthquakes?" While we are able to answer in the negative, the homes of two families of staff have been completely destroyed. Fortunately, nobody was hurt. Our sympathy goes to the victims and survivors of the dreadful catastrophes in China and Burma.

Time and again, events of this kind remind us of the threat which hangs over human habitats on earth. Even so, the consumption of resources and the mechanisation of everyday life is rising steadily, bringing with it new challenges for energy efficiency, protection of the climate and the responsible use of resources. In order to face these challenges, we must focus on innovation and technology.

The Kurtz Group is involved in new developments in various branches of industry, both in the machines and plants we manufacture and in our own production sites. As a component supplier to power plant manufacturers too, the Kurtz Group contributes to a better environment.

While we will not be able to prevent catastrophes caused by earthquakes, cyclones and flooding, technology supplied by the Kurtz Group is used in the production of equipment for seismography, data transfer and communication. ICF polystyrene building elements – produced on KURTZ plants – make earthquake-resistant and energy-efficient construction possible. We are involved in projects in solar energy, wind power use and hydropower engineering.

Some of our customers are active in the area of alternative fuel burning systems. Equipment supplied by Kurtz carries out manufacturing processes with low energy consumption. Through innovations of this kind, we contribute towards making the consequences of mechanisation more tolerable for mankind.

We are pleased and thankful to be able, together with our business partners, to contribute to ensuring that innovative engineering helps make life better for mankind on our wonderful earth.

We wish our readers in the northern hemisphere very enjoyable summer holidays, and those in the south a mild winter.

Good luck!

M. Rosenthal *W. Kurtz* *R. Kurtz* *B. Kurtz*



The Managing Board of Kurtz Holding GmbH & Co.: Dipl.-Ing. Markus Rosenthal, Dipl.-Ing. Walter Kurtz, Dipl.-Ing. Rainer Kurtz, CEO and Dipl.-Kfm. Bernhard Kurtz.

Efficiency at KURTZ = cost savings for the customers

Consolidation of production locations completed

By Walter Kurtz

Once again, the Kurtz Group can report a record year: In 2007, the growth in sales was around 10%. And growth is on the cards for this year too. The target turnover lies at just under € 200 million. Despite the sustained positive business trend of the past years, what is known as the „Hammer-Innovation-Programme“ (HIP) was launched two years ago. The target: To further extend the innovation leadership through process and production optimisation. In doing so, the optimisation of quality, cost and delivery service are the main focus of all decisions. Where necessary, the Group management will not hesitate to take far-reaching and occasionally unpopular decisions.

So, for example, a streamlining of locations was carried out last year. In this context, the Mannheim-based non-ferrous-metal foundry MGM was sold within the framework of a management buy-out and the Austrian engineering site closed.

Since last September, orders for the plant business for particle foam processing are no longer dealt with in Austria, but in Germany. For the Kurtz Group and its customers, this results in numerous synergy effects: Shape moulding machines and pre-expanders continue to be produced in Germany and, for the Chinese market, in China. The engineering intensive manufacture of block moulds and cutting plants is reserved to the designers and project engineers in Wiebelbach, Germany and also to their production department which has an especially high vertical range of manufacture. A total of 180 engineers are employed at the headquarters of the Kurtz Group in locations around Wertheim, ready every day, to further expand the innovation leadership and to shoulder the weight of demanding projects.



Growth in sales of 10% in the Kurtz Group: Increase in efficiency realised for example by streamlining of locations.

This becomes evident to customers through distinctive benefits: Due to synergy effects in manufacturing, non-productive times are reduced and capacity is used more effectively. Shorter delivery times therefore become possible.

Through the bundling of process know-how, further optimisations can be achieved in processing. The central focus is on faster cycle times with lower energy consumption and more consistent end products. The amalgamation of sales activities avoids double-processing of customers in the area of shape and block moulding. Greater efficiency, more direct access. Shorter response times with qualified answers and pioneering solutions can therefore be provided. Due to the central development department, the existing innovation

potential can be exploited more quickly. This will result in even more powerful products from KURTZ for its customers and their business partners.

Through the creation of a central service headquarter at KURTZ in Wiebelbach, existing capacity can be better exploited and service engineers deployed on a wider basis. Need-driven and preventative maintenance plans will increase the capacity and availability of the machines. This means a reduction in operating costs for the customer.

With the measures presented here, the family-run company group sees itself well on the way to achieving its lofty and ambitious growth and earnings targets – always with the objective of optimising quality, cost and delivery service to customers around the world.

KURTZ Fertigungstechnik sets up business in Hasloch

A successful move thanks to team work

By Georg Leibenzeder

Together the employees of KURTZ Fertigungstechnik GmbH & Co. KG brought off a substantial logistical feat: At the beginning of May the whole business moved to its new premises in Hasloch Barthelsmühle (formerly the Hainke company premises). Over 30 machines, including a considerable amount of fixtures and fittings, had to be moved carefully from their former location in Marktheidenfeld to Hasloch, around 15 km away.

The new premises offer 3,700 m² useful space, around 1,200 m² more than in the former leased production halls. This increase in area offers both reserve space for the planned growth of KFT, and also the possibility of optimising the production and material flow.

The cleaning shop and distribution department of the aluminium foundry in the Kurtz Group will soon become neighbours, when they move to the Barthelsmühle site in Hasloch. A temporary connecting road is currently being built from the Barthelsmühle to the Hasloch Eisenhammer site.

KFT will now be in close proximity to its main customers, the aluminium and iron foundries.



An idyllic 100,000 m² area in the middle of the countryside – The new KURTZ Fertigungstechnik location in strategically favourable closeness to the KURTZ iron foundry.



Kurtz Group with new websites

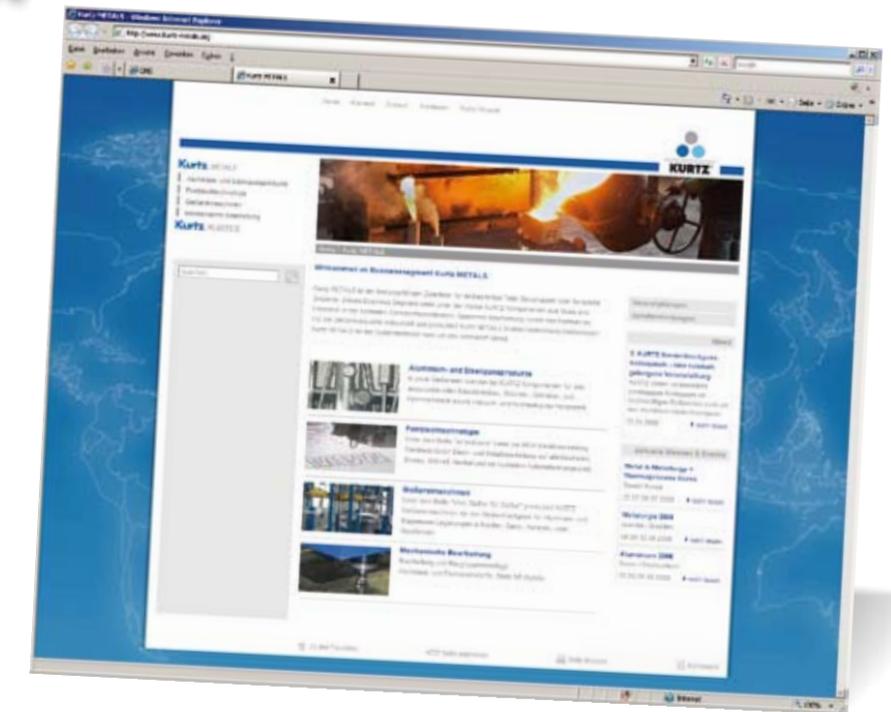
By Tilo Keller

State of the art in technical terms and of course a whole lot fresher – this is how the Kurtz Group has been presenting itself on the Internet recently. In addition to the presentation of the group (www.kurtz.info), the web presence of the brands KURTZ and ERSA, with which the Kurtz companies are successful in their markets, have also been completely reworked.

In redesigning the pages, the primary focus of all considerations was on the benefits to the user. For this reason, in addition to content, procedure and layout, special attention was paid to the structure of the newly-designed websites, so that the visitor can find his way to the desired content even faster.

This project has resulted, for example, in specific addresses for the individual Kurtz Business Segments. So, for instance, users go via www.kurtz-metals.de directly to the Kurtz range of products and services in the area of Kurtz METALS. Via the clearly-structured home page, they quickly find comprehensive information on cast products, sheet metal technology, mechanical processing and KURTZ casting machinery. The fact that service was the central focus in the conception of the new

World Wide Wiebelbach



website also becomes clear when it comes to getting in touch: Contact partners are now listed in all areas, who can be reached directly by e-mail or telephone.

The project was implemented on the basis of a Content Management System (CMS) by Keller & Brennecke advertising agency, who had already produced the previous websites and who for example designed this "KURTZ News" for the Kurtz Group.



MGM Metall-Giesserei-Mannheim sold



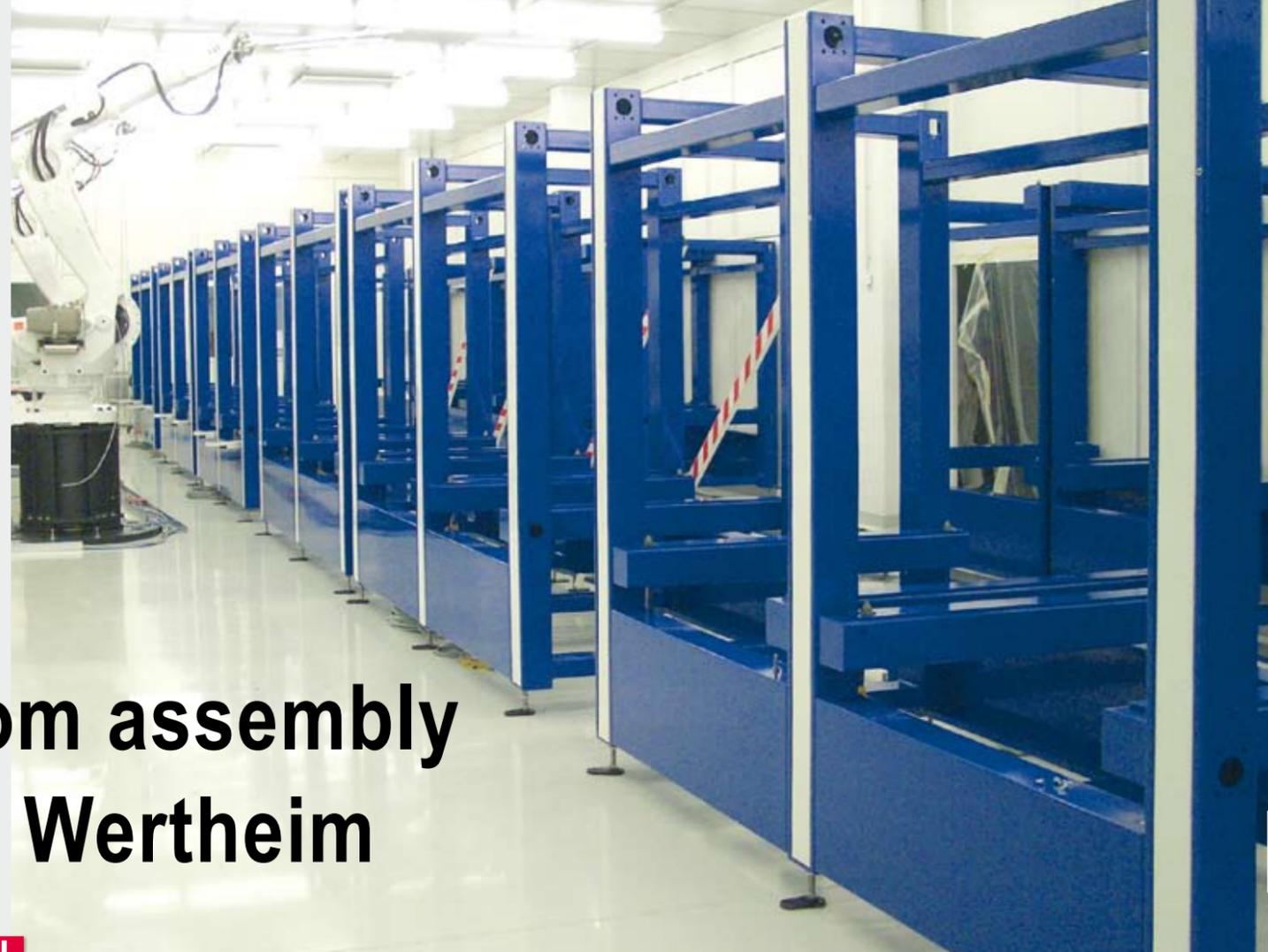
By Thomas Mühleck

Despite the sale of MGM Metall-Giesserei-Mannheim GmbH, nothing will essentially change for the partners of the business. The Kurtz Group will continue to work together closely with the company and still offers the complete range of processed iron, aluminium and non-ferrous metal castings.

The cast parts will be produced by the new company to the usual outstanding quality and to the same professional standards

by the same experienced employees using the familiar production equipment.

The new partners of MGM are Stephan Ochs and Benno Baum, who were previously already in charge as managing directors. With this management buy-out, the Kurtz Group has taken a further step in its strategic company plan, which provides for concentration on core competences and on the Hasloch site in the manufacture of cast products.



Clean room assembly by MBW Wertheim



Challenging project realised in Taiwan

The team of experts from MBW and KURTZ Zhuhai realised the challenging clean room assembly project without any problem.



By Sonia Rei and Eberhard Diehm

In the course of recent years, MBW Metallbearbeitung Wertheim GmbH has above all specialised in individual customer wishes. The range is from construction through to complete assembly. Starting with the important consultancy at the beginning of the project via production on modern machine systems on the basis of the experience of highly motivated employees down to assembly at the customer's site – MBW is high performance.

The large projects recently handled world-wide for SCHILLER AUTOMATION GmbH & Co. KG from Sonnenbühl in various clean room tasks were a challenge. It was a question of specific assembly activities for the production of photovoltaic systems.

The customer's wish was to have the assembly done in Taiwan under the supplier's responsibility. In cooperation with the colleagues from KURTZ Zhuhai Manufacturing Ltd. in China, the system was implemented under the management of the MBW specialists. Precise detail work and adjustment of the assembly work in the clean room down to the last centimetre constituted no problem for the MBW and KURTZ engineers.

In the production of thin layer solar cells, various coatings are applied to substrates (panes of glass). This process has to take place in clean room class 10000 (ISO Class 7). This means that the rooms contain a maximum of 350 particles larger than 0.0005 mm per litre of air. As a result of this

specific requirement, all the parts had to be packed free of oil, grease and dirt at MBW following production. The passage through the various systems was automated and was coordinated by a line controller, in which the timetables for the substrates had been recorded.

The automated handling demanded a very precise production of the parts. It was a question of stainless steel cases for the storage of the substrates in the case stations. Thanks to good preparation and the harmonious interaction of the teams, a performance on the highest level was provided – along the lines of „all inclusive“. Measureable success: for the quality achieved, MBW was commissioned to carry out further, larger projects for the international market.

At present, new frames and storage cases of stainless steel are being produced for world-wide use as a follow-up project specifically for SCHILLER AUTOMATION GmbH & Co. KG. Here too, assembly will be on site in a clean room.

SCHILLER has specialised in the development of automation systems for the production and handling of microelectronic components, semi-conductors of all clean room classes and photovoltaic products. Alongside the development and construction competence, short response times and a very high compliance with confirmed delivery dates are the figureheads of this automation specialist. This can only be achieved with reliable suppliers, for example MBW Wertheim.

Dust-free: Precise detail work and adjustment of the assembly work down to the last centimetre in the clean room at SCHILLER AUTOMATION, Taiwan.

Certified know-how secures high quality



Welding permit and further certifications in the Kurtz Group

The enterprises in the Kurtz Group possess great know-how, which is reflected in the high-quality products and services. This guarantees being a trustworthy partner for our customers. Quality assurance is a central matter in all the enterprises. In the quality guidelines of the Kurtz Group, product quality has been stated as an important integral part of the company policy.

We achieve implementation of these quality principles thanks to our integrated, continuous quality management system on the basis of certification according to DIN EN ISO 9001 : 2000.

Thanks to the system of continuous improvement processes (German abbreviation KVP), we permanently work on the improvement of internal cooperation with the focus on products, operational sequences and efficiency .

For example, we are currently converting and re-certifying the „Certificate of proof of suitability for welding on rail-bound vehicles and parts of vehicles according to DIN 6700-2“ to DIN EN 15085-2.

There is also certification pursuant to DIN EN ISO 3834-2. This is a question of an „extensive quality requirement for a welding operation“.

Further certifications and permissions according to Germanischer Lloyd, Lloyds Register or the TÜV pressurised container specification confirm the high Kurtz performance.



Engines:
All from one
source –
or the complete
range



By Lothar Hartmann

For more than six decades now, the companies in the Kolbenschmidt Pierburg Group – in particular KS ATAG – have intensively concerned themselves with the development and manufacture of engine blocks and cylinder heads. The use of a special hypereutectic aluminium-silicon alloy in cylinder crankcases helped to create a world-wide reputation for the company. Nowadays, KS ATAG is the leading manufacturer for low-pressure engine blocks made of „Alusil“. As early as the end of the 1940s, the first aluminium engine block left the headquarters in Neckarsulm.

Since the 1950s, they have been supplying Porsche with low-pressure die cast parts. This was the start of an intensive cooperation between the two companies.

In 1998, the largest production facility expansion at KS ATAG began. They not only invested in a new large foundry, but also in new processing facilities.

In addition to engine blocks, KS ATAG also produces the lower part of the engine block, the so-called bed plate, which is joined with the corresponding engine block and finally

assembled on-site at KS ATAG. Up to now, the bed plates had been supplied to KS ATAG. But in order to increase their control of production and thus decrease lead times to take a secure and quicker path, KS ATAG decided to include the bed plates in their product portfolio as well. This way, everything is supplied from one source at KS ATAG: Casting of the engine blocks with the matching bed plates – processing – final assembly.

To be able to cast the bed plates, KS ATAG invested in a new family of low-pressure casting machines: the type AL 13-13FSC KURTZ low-pressure casting machine.

The combination of reliable and innovative mechanical engineering by KURTZ together with the years of casting experience of KS ATAG helped the extremely demanding project to become a quick success.

By including additional engine parts in its own cast product portfolio, KS ATAG has become an innovative, complete supplier and is continuing along the path – „all from one source – or the complete range“.



**Technical features
of the system are:**

- ▼ **exact guiding system of machine for ideal removing of cast parts**
- ▼ **parallel guiding for movable clamping plate**
- ▼ **cooling**
- ▼ **accessibility / serviceability**
- ▼ **furnace exchange system**
- ▼ **visual measurement systems instead of limit switches**

Die casting and laws of nature

2nd low-pressure casting colloquium with amazing realizations

By Tilo Keller

„Low Pressure – High Quality“ was the motto of the second KURTZ low-pressure casting colloquium in Wiebelbach. The two-day event met with enormous interest with the selected customers and interested parties from the casting industry, which was not only to be put down to the attractive programme with specialised talks and guided tours of the company.

In various lectures, the technical and economical aspects of the low-pressure casting processes were compared with other casting methods to start with; likewise, productivity and profitability. The latest tendencies with primary aluminium pig cast alloys, the development in low-pressure sand casting and examples of casting and solidification simulations were further subjects for the speakers.

On the evening of the first day of the event, the attendees were treated to exquisite meals from the region with mediaeval music and local Franconian wine at the Wertheim castle.

Case examples on cast development were presented at the start of the second series of lectures before Dr. Heiko Andrä from

the Fraunhofer Institute shed light on the „Simulation of the casting process chain“. The question whether low-pressure die casting is only a suitable technology for engine blocks in premium vehicles was dealt with by Dr. Ing. Stephan Beer from KS Aluminium-Technologie AG in his lecture.

With his contribution „Hidden design laws in nature“, Prof. Dr. habil. Claus Mattheck from the Karlsruhe Research Centre captivated his audience in the final lecture. The damage researcher and professor of biomechanics, who has won a number of science and environment prizes and whose books have been translated into a number of languages, then explained the laws of mechanics in nature with a high entertainment value.

According to Mattheck's conviction, nature provides all the templates for stable constructions. On the basis of nature, in his words, perfect parts could be constructed in many cases with very simple means and without the help of computers. These partly revolutionary ideas astonished many of the experts present and supplied a lot of material for discussion at the end of these two great days.

*Fully booked colloquium at KURTZ:
The participants enjoyed lectures, plant
tours and mediaeval music at the
Wertheim castle (see photo above).*





No common day to day development by the Kurtz trainees: The chocolate casting machine is a sensation everywhere.

Sweet temptation

Kurtz trainees spark excitement with chocolate casting machine

By Thomas Mayer

A sweeping victory for trainees of the Kurtz Group companies: Within the framework of a competition run by the IHK Heilbronn-Franken, Kurtz apprentices emerged in first place – with their very own chocolate casting machine.

Eight month's work went into the project which, thanks to the cooperation of numerous trainees at all apprenticeship levels, was completed in time for submission. Under their own management and bearing responsibility themselves, apprentices from thirteen different branches of training and studies designed, tinkered and made adjustments, until the low-pressure chocolate casting machine could be presented to the awed public at an educational fair in June. In order to build the bridge to the Kurtz Group,

a task had to be selected from the company's product portfolio which would attract attention with additional features and special process engineering.

A concept was therefore developed which would allow the necessary cycle time of two minutes to be observed. The result: a four-station principle using a number of dies. In the end, operating on the circulation principle, twelve dies, each with two cavities, produced an abundance of chocolate coins with the Kurtz logo. In the initial step, the dies are filled in the first station, before being brought to demoulding temperature in a chilling tunnel. The solidified coins are then removed by vacuum suction before the dies move on to the fourth and last station: In a heating tunnel, the dies are brought back up to room temperature and the cycle commences once again.

The jury und Kurtz management were deeply impressed by the harmonious cross-company and inter-site cooperation. Control cabinet and operating panel come from ERSA, all sheet metal work from MBW. In the future, the machine will serve as a delicious eye-catcher at exhibitions and vocational information events.

Delicious: The Kurtz chocolate coins



KURTZ employee waits for an organ donation



Stefan Endrich is a winner at the German Transplant Recipient Championship

By Nils Brennecke

Stefan Endrich is delighted! The dialysis patient, who works at KURTZ Fertigungstechnik GmbH & Co. KG, won three gold and two silver medals at the 29th German Dialysis Patient and Transplant Recipient Games in the German Marktobendorf.

This is the fourth time that Stefan Endrich has taken part in the German Organ Transplant Recipient and Dialysis Patient Championship. He demonstrated with considerable success that he is a true champion in a wide range of disciplines: He achieved personal best times in several swimming races: The 4 km urban mini-marathon was well within his grasp; his time was 19:07 minutes. He completed the 1500 m race in 6:26 minutes. As a player with his home volleyball team of Karbach he was also honoured to take part in the volleyball tournament, with the team achieving second place.

The gold and silver were given out by a celebrity sportswoman - successful athlete Endrich was awarded his medals by the patron of the German Championship, former skier Irene Waigel (formerly Eppel).

Heart transplant recipients from their mid-20s to late 70s compete with lung, liver or kidney transplant recipients of all age classes at the German Championships.

Around 12,000 patients are currently awaiting organ donations in Germany. Almost 90 per cent of the population have a favourable opinion of organ donation, but only 12 per cent carry an organ donor card. Less than half of Germany's hospitals are involved in the search for organ donors.

Only around 67 per cent of Germans agree to organs being taken from their relatives after death. This results in three people every day dying in Germany from acute lack of donated organs. The average waiting time for a kidney is five to seven years. By way of comparison, in Austria it is around two years; in Spain only one year.

Stefan Endrich is now in his seventh year of waiting for an organ donation, following a successful first kidney transplant for a period of twelve years.



Plenty of medals for Stefan Endrich at the German Dialysis Patient and Transplant Recipient Games.



More information online:
www.dso.de
www.transdia.de
stefan.endrich@online.de

ERSA HOTFLOW 3



„Best in class“ Reflow technology

By Mark Cannon

The introduction of the lead-free process is now behind us. However, electronics manufacturers are now being faced with new, exciting challenges. Market requirements are forcing OEM and EMS companies to think beyond the simple „soldering process.“ What needs to be done now is to optimise the entire cost-effectiveness of the production process.

Global shifting of labour costs, increasing energy bills and exchange rate risks are continually increasing the burden on profitability. Only those companies that can maximise production output per m² of floor space and also reduce defect rates as well as total costs per circuit board produced will be able to retain their competitive edge. In other words, it is those companies that can maximise profits per unit produced that will succeed.

ERSA is one of the leading manufacturers of machines and systems for the electronics industry and has committed itself to meeting the challenges its customers are facing: Highest productivity at the lowest possible manufacturing costs. For this very reason, ERSA has invested in the development of new reflow systems, which focus on process

security, throughput and actual operating costs. The days of integrating just any reflow oven into the manufacturing line are over. Instead, current operating costs paired with the efficiency of the machine play a central role in buying decisions. The actual cost-effectiveness of a system can only be determined by an analysis of the total cost of ownership.

„Best in class“: Highest level of machine output per m² of floor space

ERSA customers are users with the highest of demands. With this in mind, ERSA recognized at an early stage that the ability to produce using multiple transport options is the future of batch processing. Multiple transport systems enable the manufacturing line to be reconfigured; multiple assembly machines can run one reflow machine equipped with various working transport systems, operating independently of each other. It is exactly in this situation where highly efficient and absolutely stable heating technology is essential. ERSA has integrated multiple transport tracks into the process tunnel of the HOTFLOW 3 without negatively influencing the thermal characteristics of the systems. As a result, increases in productivity of up to 400% are possible

compared to commercially available machines.

„Best in class“: Machine availability

The ease of maintenance and servicing as well as the time required for this play a very important role when examining the efficiency of a modern reflow soldering system. At the end of the day, maintenance usually means nothing other than machine downtime and therefore loss of production. The „maintenance-on-the-fly“ option allows the condensate management system to be cleaned even during operation mode. This means that there is no downtime and no loss of production due to machine maintenance.

„Best in class“: Return on investment

If you consider return on investment, HOTFLOW machines are still bestsellers. The series consists of several machine configurations that can be differentiated primarily by the length of their processes and defined according to the process specification of each customer. Regardless of whether you value high throughputs, simple parameterization, cleanliness of the process area, transport system flexibility or simple maintenance, a HOTFLOW from ERSA is always the best choice.

Industrial production returns to Germany

ERSA i-CON in three-shift-operation

By Guido Seifert

Production at competitive prices in Germany—this is possible and it has been proven by an automation project carried out by the automotive supplier ELEKTRA Schalkau GmbH based in the German state of Thuringia.

Up until now, windshield wiper switches made by a well-known manufacturer have been produced manually by the 32 employees at the subsidiary plant in Lochowice, Poland. However, Zwerrenz Automatisierungstechnik GmbH in Suhl now developed an assembly machine that will shortly take over the manufacture of this switch in three-shift-operation for ELEKTRA in Schalkau. A completely manufactured and tested switch will then leave the line every 4.4 seconds. Only a single person is needed to supervise the entire system.

In this project, the greatest value has been placed on operation that is as problem-free as possible, with minimal refitting and down times. This goal could only be achieved through the interaction of industry-proven components. ATN Automatisierungstechnik GmbH in Berlin provided the high-precision soldering heads and feed units for feeding the solder wire. A total of 10 i-CON soldering stations were integrated into the system.

Only the use of these high-efficiency systems could achieve the short cycle times required. For this purpose the required soldering parameters were optimally adjusted with each other with the aid of ERSA Application and Engineering. All the relevant pulse logic parameters can be adjusted and all the process data can be documented using the communication protocol available via the serial port on each station.

Since the launch of the ERSA i-CON onto the market, this soldering station has already been successfully implemented in numerous automation projects.



Extensive soldering:
Automated production with ERSA
i-CON at ELEKTRA, Schalkau



Repair service for mobile telephones

By Jörg Nolte

The HR 100 A by ERSA is a compact rework tool specifically designed for repairing mobile telephones and other highly integrated electronic components. This patented hybrid technology transmits concentrated soldering energy onto small, multi position components without contact. This allows your service organization to replace defective chips quickly and reliably. This hand-operated system can be combined with a stand and heating plate to create a high-value rework system with a PC connection.

As in its other fields of technology, ERSA provides comprehensive application and product training to round out this innovative tool.



HR 100 A base station with Hybrid Tool and complete system

Viva VERSAPRINT

ERSA Printer receives the SMT Vision Award in Nevada

By Tilo Keller

Cheers for ERSA in Las Vegas: At this year's APEX, the most important trade fair for electronics manufacturing in the USA, ERSA VERSAPRINT was awarded the coveted SMT Vision Award.

speech. She then added: "Each of the winning products demonstrates significant benefits to electronics assemblers, a solution to a significant industry challenge, economic merits, and other exemplary characteristics."

For the 16th time, the American trade journal SMT presented awards for product innovation and cutting-edge technologies across the entire field of electronics manufacturing.

The innovation of ERSA VERSAPRINT convinced not only the judges but also the entire sector, despite the fact that another extremely innovative printer is a strong competitor. "This night is about honouring companies driven to advance the electronics market," said SMT Editor-in-Chief Gail Flower in her

The products were judged specifically according to the categories of level of innovation, cost-effectiveness, improved speed/throughput, quality, user-friendliness, ease of maintenance and serviceability as well as environmental responsibility.

This was the fourth time ERSA has received this award: the visual inspection system ERSASCOPE, the Rework System IR 550 and the automated repair system ERSA AOI & R have also received the SMT Vision Award.

For more information online: www.ersa-versaprint.de

10 years of ERSA Rework

A success story

By Jörg Nolte

Since inventing the electric soldering iron in 1921, ERSA has continually produced attention-grabbing technological innovations. Today, ERSA is one of the leading manufacturers of soldering systems and soldering devices – the electronics industry around the world trusts ERSA systems.

As of May, it has been ten years since ERSA became active in a specific area of soldering technology – component repairs, and has developed quite a strong reputation in this area.

In 1998, the first ERSA IR 500 A Rework systems were introduced to the market, thereby marking the inception of a successful repair technology. Assisted by a strategic partner, the IR 500 A was brought to the production stage, and within the first year after its launch, was already considered a great success with 300 systems sold.

This technology, which uses medium wave infrared radiation to remove and resolder surface-mounted electronic components for assembly repair, was just as obvious as it was revolutionary. Without the jets found in traditional equipment and without air motion, thermal radiation energy is carefully and homogeneously applied to the circuit boards from above and below for soldering components. Even difficult applications, such as metal shielding, plastic parts and asymmetrical components, can be easily processed using IR technology. Initially, this technological principle



required a considerable risk on the part of management but has since proven to be correct.

During the first few years, ERSA had to explain its technology to the world and assert itself with respect to established manufacturers and systems – however, top sales of over 500 award-winning IR 500 A systems per year prove its success.

In the mean time, ERSA has long since passed the 5000 mark for the number of Rework systems installed. The range of accessories has been tailored to the needs of the customers, and ERSA discusses issues and suggestions submitted by customers with application engineers and developers on a daily basis in order to continually improve the efficiency of the systems.

Overview of the ERSA Rework product line



- ▼ **1998** Introduction of the first ERSA IR Rework system – IR 500 A
- ▼ **2000** A precision placement system is added – PL 500 A
- ▼ **2002** IR 550 A – the even more powerful, digital brother of the IR 500 A is put on the market – contact-free temperature measurement and process control on a PC – „Vision Award“ at the APEX, USA for best new product.
- ▼ **2003** The PL 550 A replaces the PL 500 A – exact placement and process monitoring using the Reflow Process Camera.
- ▼ **2004** Announcement and introduction of the IR 650 A – IR repairs to large circuit boards and applications that had previously not been possible – the placement unit PL 650 A and the RPC become available optionally.
- ▼ **2006** The IR/PL 550 A and the IR/PL 650 A with the RPC establish themselves worldwide as the standard solutions for SMT repair.
- ▼ **2007** More efficiency in small components – ERSA develops the Hybrid Tool – in the HR 100 A, infrared radiation and gentle convection become the ideal combination.
- ▼ **2008** The successful Rework product line is continually being improved; it enables customers to better manage the challenges of repair.



Global market leader trusts ERSA POWERFLOW



Satisfied faces at FESTO: Lead-free soldering with the ERSA POWERFLOW 2 in Ostfildern. Lars Wütherich (Team Electronics / Processes) and Albrecht Grammlich (Head of Component Production) are pleased about the smooth start with the Wertheim technology.

five days a week. The main criteria for selecting the wave soldering system included the greatest possible level of flexibility, low maintenance and, of course, ERSA process security.

The immense breadth of the FESTO product range generates high requirements for flexibility in soldering system technology. In the area of THT soldering, FESTO produces nearly 200 different product groups with lot sizes of 30 to over 3000.

“No retrofitting time is allowed here,” explains Lars Wütherich, the man responsible for wave soldering technology at FESTO. “FESTO has decided to go with what is called “chaotic” manufacturing.” This means that a product mix is moved into the system. This results in, of course, the highest demands on ERSA plant technology.

Using an intelligent mix made up of various preheating procedures, from medium wavelength radiation to convection through to flexible dynamic heating, it is possible to stably process the entire product range in this system.

The flexibility FESTO requires is provided by the segmented conveyor of the ERSA POWERFLOW N2 over the preheating unit and the solder module. This allows the user to operate the system at variable speeds without incurring waiting times for the various products waiting to go into the system.

Using ERSA condensate management and the intelligent flux system, FESTO is able to reduce maintenance costs to a minimum. Centralized cleaning via condensate management is especially helpful in keeping maintenance times as short and simple as possible.

Flexibility and process security are important to FESTO AG when it comes to wave soldering

By Martin Causemann

FESTO AG, a global player in automation technology and exemplary in technical training and continuing education, is enjoying a strong growth curve: Its expected global revenue for fiscal year 2007 is more than 1.6 billion euros. Already in the last two years, the company has invested more than 100 million euros into its German locations. Last year, FESTO generated approximately 300 new jobs in Germany alone; just as many will be added this year. With over 12,000 employees and 56 local branches, the company is a partner to 300,000 customers in 176 countries.

FESTO's product range encompasses approximately 25,000 catalogue products in several hundred thousand variations as well as customer-specific solutions and

special applications for pneumatic and electrical automation technology. The company has 2,800 patents worldwide, and adds around a hundred to this number every year. Micro- and nanotechnology as well as electronics and mechatronics play a decisive role in this. This means that FESTO's mechanical engineering customers can use intelligent components to build their digital factory and therefore reap decisive competitive advantages in the coming few years.

Due to its large range of products and with a view to the new technologies of the future, FESTO has chosen the ERSA POWERFLOW N2 for lead-free wave soldering. Since 2006, this system has been producing reliably at the Ostfildern, Germany location in 2-shift-operation

ERSA Know-how Seminars 2008



- ▼ 1 + 2 October 2008
Technology Days
- ▼ 14 + 15 October 2008
“Lead-free selective soldering” workshop
- ▼ 14 + 15 October 2008
“Lead-free wave soldering” workshop
- ▼ 16 October 2008
“Lead-free manual soldering in line with IPC-A-610” workshop
- ▼ 4 + 5 November 2008
“Lead-free selective soldering” workshop
- ▼ 4 + 5 November 2008
“Lead-free wave soldering” workshop
- ▼ 6 November 2008
“Lead-free manual soldering in line with IPC-A-610” workshop

Minimise scrap rates



D-Log gives you a push with concrete error reports

By Klaus Baumann

All heads of operation know the scene: there were problems on the night shift again. The scrap rate reached dizzy heights at night and has continued to grow over the past few weeks despite all kinds of counter-measures. No-one has a plausible explanation of what actually happens there at night.

Help is now being given by a product which KURTZ presented during the Plastics Trade Fair in Düsseldorf. In a way similar to the electronic monitoring of patients' vital functions in an intensive care department, the D-Log plotter ensures that the supply of the processing system with steam, air and cooling water does not change unnoticed.

The device checks whether the limits stated by the operator are complied with and automatically generates an error report if a set limit is exceeded. A warning lamp displays this immediately. In addition, D-log can also forward these error reports to a central server, which transmits them to the shift manager or the head of maintenance by e-mail or text message. In this way, the maintenance personnel can get involved quickly and for example prevent scrap parts being produced as a result of an insufficient supply of steam.

Over and above this, D-Log permanently records the pressures and temperatures of the supply media. D-Log records up to eight measured values per second from external sensors, which can give it information

about all the physical variables in question. These measured values are visualised on the monitor and stored locally to start with. The measured values can be stored tamper-proof on an external data medium for later evaluations and for archiving. Online transmission of the data to a central server is also possible.

This data collection forms the foundation for a systematic troubleshooting. Weak points in the infrastructure can now be localised and shown with real measured data. Necessary remedy measures can therefore be implemented efficiently with planning precisely to the target. If, for example, the limits for the water temperature are repeatedly fallen short of in the night shift, this is a concrete reference to causes of errors, which can be followed up.

If D-Log is in operation, the secrets of the night can quickly be uncovered: the temperature of the circulating water, which drops in the colder autumn nights, was the main cause of the unacceptable scrap rates. The temperature regulation of the water processing system was then improved by taking simple measures, with the result that the particle foam processing is now running more stably than ever before.

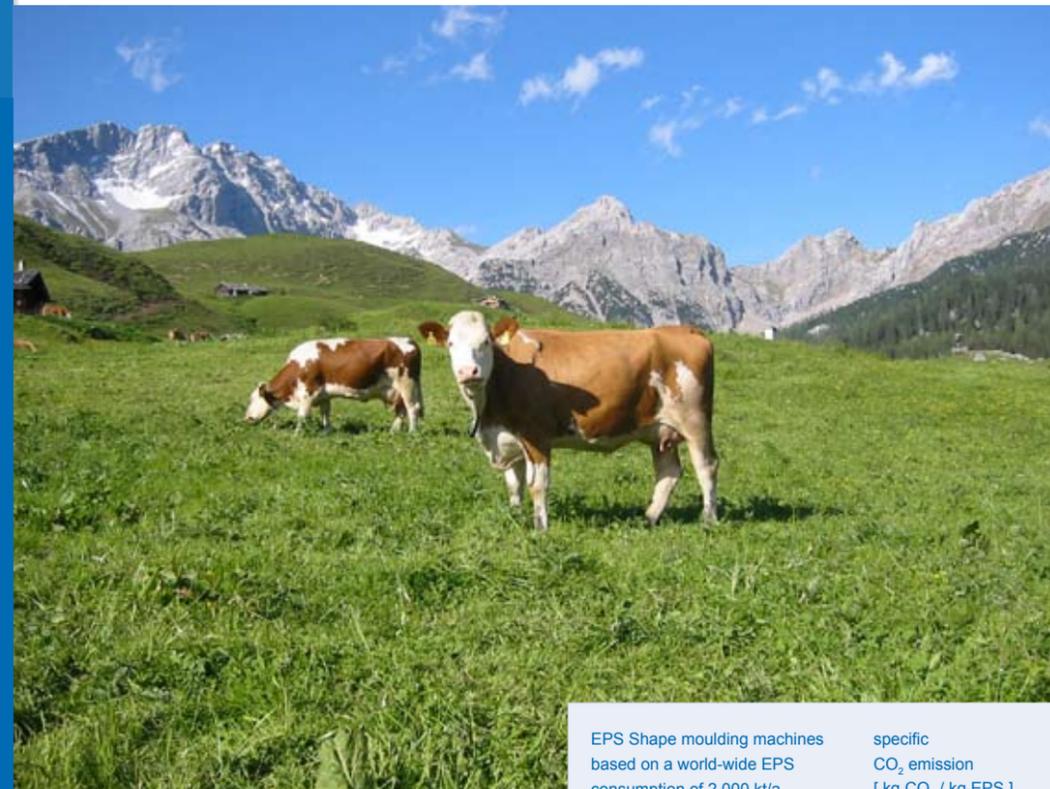
Thanks to the improvement measures taken, several thousand euro are now saved in the entire factory per night shift, with the result that investment in the KURTZ D-Log pays its way within a very short space of time.

KURTZ D-Log even informs the shift foreman by text message or e-mail when a problem occurs during production.



CO₂ emissions in EPS processing

Our contribution to Kyoto



By Stephan Gesuato

How can our industry contribute to reducing the CO₂ emissions? This question is not easy to answer. Generally one can say that everyone ought to work on reducing energy consumption and thus CO₂ emissions. But which energy consumption would be adequate for the processing of EPS? Why are we even dealing with this subject?

More than 3.3 billion tons of CO₂ were produced world-wide by all industries in 2006. The EPS processors had a share of almost 8 million tons (block and shape moulded parts), i.e. 0.24%. This figure takes the emissions resulting from production and consumption of steam, compressed air, cooling and electrical energy for processing of EPS into account. Energies needed for the production of the raw material have not been included in this observation. On the basis of our market researches, we have determined a specific CO₂ emission per kg of processed EPS.

EPS Shape moulding machines based on a world-wide EPS consumption of 2,000 kt/a	specific CO ₂ emission [kg CO ₂ / kg EPS]	arising CO ₂ emission [t / a]	share related to today's CO ₂ emission	Savings by KURTZ technology
today's total world average	3,52	7.036.439		
with KURTZ Vacuum technology	1,73	3.467.671	49%	51%
with KURTZ Eco-LTH technology	0,92	1.846.281	26%	74%
with KURTZ LTH technology	0,68	1.353.402	19%	81%
KURTZ average	1,11	2.222.000	32%	68 %

EPS Blockmoulds based on a world-wide EPS consumption of 2.400 kt/a	specific CO ₂ emission [kg CO ₂ / kg EPS]	arising CO ₂ emission [t / a]	share related to today's CO ₂ emission	Savings by KURTZ technology
today's total world average	0,40	962.266		
with KURTZ Vacuum Blockmoulds	0,14	336.384	35%	65%

From our tables, the specific emissions in processing can be seen in accordance with the various available methods:

You can decide yourself which energy consumption and thus which emissions you consider adequate in processing.

With the MP-Line generation of shape moulding machines now developed by KURTZ – MP standing for Multi Process – the processor has a free choice of the

processing method. This permits use of the particularly environmentally friendly LTH and Eco-LTH methods without having to invest in specific machines for this purpose. The KURTZ block moulds of the EcoLine series also set new standards with a view to energy requirements and productivity.

We shall be pleased to support you in reducing CO₂ emissions in your production plant – for Kyoto and our environment.

Rumania as a growing market

Complete plant supplied for building elements manufacturer

By Hüseyin Ugurlu

S.C. Isorast Technology S.A. in Rumania produces not only building elements, but also façade insulation boards. As a main contractor, the company even supplies turn-key residential units in low-energy passive house construction. Isorast also looks after the infrastructure of sites under development.

Now, after a construction period of just eight months, S.C. Isorast Technology S.A., which acquired its manufacturing licence from Isorast in Germany, has erected an entire manufacturing plant on a green field site.

KURTZ supplied and installed pre-expanders, shape moulding machinery, a block moulding plant as well as cutting and recycling lines. By coincidence, the Rumanian Ministry of Defence was

looking for economical building options. Housing estates for staff were to be built as quickly as possible. A specification for this project was modern energy saving. In the course of its research, the Ministry became aware of the innovative construction elements from S.C. Isorast Technology S.A.. And after just a few meetings the rush order for 750 residential units was placed by the Rumanian Ministry of Defence.

Due to the immense potential in Rumania, the decision has already been taken to expand the new production plant. Production capacity is actually to be doubled by the end of the year. In addition, further plants for Isorast building elements are planned at a variety of locations, which will, of course be equipped with machinery and plants from KURTZ.



The Rumanian delegation with Major General Tudor Monteanu (2nd from right) as well as Eugenia Ratu, Managing Director of Isorast (1st from left) and Hüseyin Ugurlu of KURTZ GmbH (2nd from left).



Block mould Ecomat: The most efficient kind of block production.



By Walter Kurtz

Time and again, propagandist organisations launch the rumour that packaging made of expandable polystyrene is to be banned. The results of a study carried out in 2004 state very clearly: If all plastic packaging were to be replaced by alternative materials, this alternative packaging mass would quadruple. We can imagine for ourselves the catastrophic consequences for our industry and our environment. Even for this reason alone, a sensible approach needs to be taken to this topic.

Optimum protection from impact and falls: EPS has become indispensable in everyday life.



Bicycle helmets made of EPS – vital in competitive and leisure sports.

Recently, a report appeared claiming that EPS was to be banned as packaging in Korea. Closer investigation, however, revealed that this was not the case. It is true that efforts are being made to reduce packaging waste and that polystyrene cups and disposable packaging for fast food have therefore been banned. However, with a figure of 4.5 kg EPS per head of population, Korea is the country with the highest consumption worldwide. Overall, 215,000 tonnes of EPS are processed annually in Korea and used primarily as packaging in the electrical goods and electronics industries. If appliances such as washing machines or

An end to the rumours on an EPS ban

Polystyrene protects humans and goods



TV screens were to be packaged using other materials, Korea would understandably lose its strong export position. Because, in LCD and plasma screen manufacturing alone, Korea holds all world patents and would therefore unnecessarily jeopardise its economic position.

From the USA too, primarily from California, reports appear regularly from concerned EPS processors that Styrofoam products (the trade name there for expandable polystyrene) are to be banned. But here too the association of US EPS processors reports only on a ban on polystyrene cups and fast-food containers.

In Western Europe an increasing positive tendency can be observed to regard polystyrene as an unbeatably economical insulation material and one which is indispensable. For example, in the long term, appliances can be packed most safely, with the lowest weight and at the lowest cost using polystyrene. In safety helmets which, like packaging, provide protection from falls, impact and cold, polystyrene has become indispensable in sporting activities. Generating negative publicity takes the wrong sensationalist approach to a discussion which should be conducted on a factual basis.



Reliable, fast
and friendly

Kurtz customer service is
excellent, worldwide

By Walter Kurtz

Providing reliable customer service worldwide with competent, friendly contact partners has always been one of Kurtz strengths. Within the framework of our "Service Excellence" initiative, we have now begun to adapt the existing global service network to the new challenges within the Kurtz SERVICES business segment in the KURTZ particle foam machines division. Predominant among the new challenges is the transfer of the KURTZ Altaussee services to the central control station for technical services for particle foam machines, block moulds and cutting plants in Wiebelbach. The „Corporate Center Services“ assumes the strategic task of coordinating the expansion of the technical service network with external partners. In this way, the high service standard will be guaranteed for every location worldwide.

Overall there are three international service hubs serving as central control stations for the respective regions:

- ▼ *Europe & Africa (Kurtz Headquarters in Wiebelbach, Germany)*
- ▼ *North & South America (KURTZ North America Inc., Plymouth, USA)*
- ▼ *Asia (KURTZ Far East Ltd., Hong Kong)*

These service hubs will be supported by local decentralised subsidiaries. In order to cater to local and operative requirements as well as to ensure the necessary flexibility in service, the network will be augmented by external service partners. The quality of these external partners is guaranteed by the „Corporate Center Services“.

With our new reliable international service network, including external service partners in the KURTZ particle foam machine division, we are pursuing our service motto: "Think global – act local".

Cost optimisation & quality improvement

The new ERSA ServicePacs

By Jürgen Friedrich and Gerd Haas

The fast pace of development in electronics, for example in the area of components, is leading to permanent new possibilities for increasing both functionality and miniaturisation. The best examples are mobile electronic appliances. These challenges in global competition leave companies facing ever-shorter "times to market" for their products. It is not unusual for this to go hand in hand with even higher expectations and demands on the part of the customer. But global competition also places companies under enormous cost pressure. While meeting ever-rising quality standards, it is also necessary to reduce production costs and capital commitment. Furthermore, environmental legislation worldwide is increasingly presenting new challenges for electronics manufacturing.

These constantly-changing demands made on companies are directly reflected at the production sites: As a result of the high value generation associated with the soldering processes, subsequent, corrective intervention in the assemblies is associated with rising costs. The location and elimination of potential error sources in the flow of production is therefore an important key to quality enhancement and consequently to the avoidance of cost-intensive subsequent work.

With the new extensive Service Portfolio, ERSA supports its customers very specifically with a variety of services.

The modules presented here are elements of the new ServicePacs, but can be ordered on a needs basis. All have one thing in common: They serve to provide lasting cost optimisation and quality enhancement:

▼ Ramp Up Support

Shortens process start-up in a newly-installed ERSA soldering plant with technical support in machine operation and through active support in the finding of optimum process parameters for the customer's products.

▼ Process support

Provides focussed support to the customer where technical difficulties arise with a certain product or product group in a soldering plant.

▼ Machine and process

Holistic analysis of the soldering phase with the aim of increasing the quality of the assembly production. Location of potential error sources which can influence the soldering process and lead to soldering errors.

▼ Training

The offer includes both standardised and individual training for all ERSA systems in the wave, reflow, selective soldering and printing sectors and in the area of process technology and optimisation. The target group consists of machine operators, those responsible for the processes, maintenance staff and quality assurance personnel and employees involved in work preparation and development.

These services allow customers to identify deficits and determine the causes. The quality of assembly production can therefore be placed on a lastingly secure footing.

At the same time, ERSA customers are sensitised to the fact that so-called soldering errors need not necessarily be sought in the soldering system. Rather, the spectrum of possible causes is considerably wider. Only with this approach can lasting quality assurance and the associated cost reduction be achieved.



190 Mio € Turnover • 1,200 Employees

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