

20.

Edition

December 2001
10th year

Kurtz

... NEWS



The customer and employee journal

10 years
KURTZ NEWS

A soft landing -
SAP incorporated

Precisely
processed

K'2001 &
Productronica



JUBILEE EDITION



<http://www.kurtz.de>
www.ersa.com

10 years KURTZ NEWS



It was ten years ago that the editorial of the first edition of our customer and employee magazine, „KURTZ NEWS“, put into words our vision of what the publication aimed to achieve, namely „to impart information with the aim of increasing familiarity and improving knowledge“. The familiarity we were talking about was familiarity with colleagues and in-house procedures, with our wide range of products and with the relations we enjoy with our customers; likewise, we did not see the improving of knowledge as an exercise in training up a staff of know-alls, but in making available a wide range of background information. We aimed to do this by putting together a colourful bouquet of informative articles on a wide range of topics. We appealed for cooperation, not only from our staff members, but also from their families, from our customers and members of the public. In return we received not only a mass of information but also criticism. This was accepted as perfectly healthy and we tried to respond by taking effective remedial action.

The enthusiastic feedback we have received from our readers has been for us a measure of our success in tackling the different fields of activity represented in the Kurtz Group, focussing in every new edition on new specialist topics. The cover pictures have for the most part been intended to shed light on the respective issue's principal theme. Numerous conversations about the various fields in which the Kurtz Group is active have shown us the high level of expertise and knowledge that is deployed in dealing with the themes chosen. Such conversations have often started off with the reaction „What, you do that as well?“ and enquiries have been stimulated by articles on a particular theme: „Could you give us a tip about how we might be able to produce such-and-such an item?“. But the effects are not only felt outside the Kurtz Group – communication has improved internally as well, and over the last ten years „KURTZ NEWS“ has also made its own significant contribution to improved customer relations.

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Despite initial predictions from our prophets of doom, the editorial committee has still not run out of themes, and concepts are being worked up for a number of issues to come. A propos editorial committee – this is perhaps the right moment to express our sincere thanks to them for all the extra work they put in, and to appeal to them to keep up the good work! In these turbulent times, we wish that the coming New Year will be a time of genuine rest and recreation for all our readers and their families, and hope that you will all enjoy health, prosperity and peace of mind in the year 2002.

All the best!

Y. K.
V. Kurtz
Bein Kurtz
Besuchen Kurtz

A (p)leading article ... on the trials and tribulations of a member of the editorial committee

Yes, my honoured readers, I really do enjoy writing. At school my essays were not bad at all. Yes, of course the style was a shade too journalistic, but that must have been something I inherited from my father, who was himself a scrivener of parts.

I have given of my best in many editions of KURTZ NEWS so far, and on a variety of topics, from subterranean EPS blocks, wet-pulverizing machines, giant casting installations, revolution upon revolution in the field of ultra-multi-functional soldering tools, through to the @shop for merchandising articles, not to mention a hobby of mine which I reported on in great detail. My pen is that of a ready writer, the ink positively streams from my pen and as a rule I have to trim my offering savagely to fit it into the space allotted me.

But for this issue – and of all issues it had to be the Jubilee issue – inspiration has abandoned me. So I am going to write about what I enjoy doing most and what I do best – writing (and the thoughts I have when putting pen to paper). You are not to take this too seriously and please be forgiving – after all, I am only describing a situation which we all have been in at one time or another. Sit back and enjoy ...

Tuesday, 17.9.
It's been decided! The theme of KURTZ NEWS 20 is going to be JUBILEE and I am to write the leading article. I'm honoured, I'm sure, but there's still plenty of time ...

Monday, 15.10.
The preparations for K'2001 are in full swing and I'm standing in the

trade fair building in Düsseldorf, screwing away on our new shape moulding machine – great fun! I thought I might be able to snatch a few moments to write the leading article, but there's no hope of that! No need to worry, there's still plenty of time ...

Thursday, 25.10.
The K'2001 fair is off the ground and there's no shortage of customers (or work). I will have to give KURTZ NEWS a miss for the moment, but there's still plenty of time ...



Thursday, 1.11.
I'm burnt out again – I'll just have to take a holiday and while I'm at it I can give my thoughts free rein and I'm bound to have an idea for KURTZ NEWS. And anyway, there's plenty of time ...

Monday, 20.11.
The sun in Andalusia was too beautiful for words, the food was out of this world and that Rioja Gran Reserva – that's what I call a wine with depth. My thoughts certainly had free rein, but they were everywhere except on the leading article. Well, there's still plenty of time ...

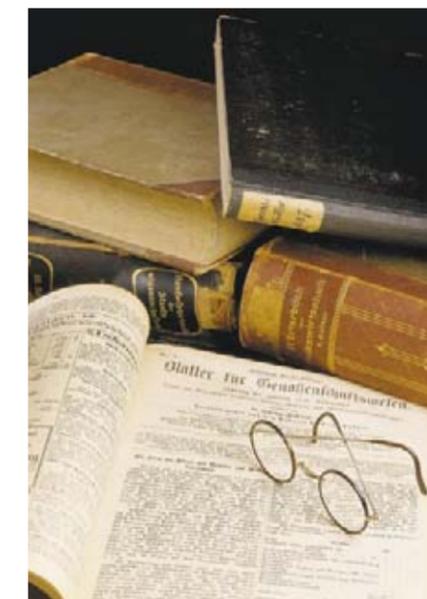
Tuesday, 21.11.
I returned from my holiday to a mountain of work on my desk. Everything to be done by yesterday, everyone



wants something from me. And the leading article? No problem, there's still plenty of time ...

Wednesday, 22.11, 1.00 p.m.
Meeting of the KURTZ NEWS Editorial Committee. I haven't got a leading article yet, and my colleagues don't seem to have had any great ideas either. Now I have a pile of articles to edit as well, but that's no problem, there's still plenty of time. There is, isn't there ?

ONLY ONE DAY TO GO TO THE FINAL DEADLINE SUBMISSION!!



Wednesday, 22.11, 7.00 p.m.

The encyclopaedia is not much help. Jubilee comes from the Hebrew Jubel = ram, or ram's horn trumpet. But we at Kurtz don't want to blow our own trumpet. I see jubilee is defined as „a time of rejoicing in honour of an anniversary, especially after 10, 25, 50 or 100 years“. That doesn't help me much. The themes of the 19 past issues are too varied for me to do a quick synopsis.

Variety – now that would be a good theme, but where would one start? I carve my way through the search programmes on the Internet, but have no luck there – I just can't get off the ground on this subject. My old friend the Dictionary of Psychology is not much help either.

Customer, Customer Orientation, Globalization and e-Commerce, they have all been done to death in past issues, and so has the historic water hammer which our company sprang out of and of which we are all so justly proud. I'd take a chance with the introduction of

the Euro, but I'm not so hot on finance. Maybe something that's on everyone's lips at the moment, something highly topical ... if only I could find a link between jubilee and Harry Potter.

Or an allegory bringing in the German national football team – not recession, but a comeback? Or something about the terrorist attacks on the USA? But that's the last thing that's got anything to do with jubilee, and all I can do when I hear about it is freeze up in incredulity, unable to take it in.

Taking that line wouldn't do anyone any good, least of all myself ...

Wednesday, 22.11, 8.00 p.m.

Eureka! I'll write about writing the leading article! It won't do any harm to show that Kurtz is staffed by perfectly normal human beings, with their strengths and their weaknesses – yes, people like you and me!!

Michael Ende hits the nail on the head in his poem „The Real Apple“:

*A man of the pen, famous
for being a strict realist,
decided to describe a simple object,
just as it is:
an apple, for example, ten pence in price
(seven cents),
and all pertaining thereto.*

*He described its shape, its colour,
its smell,
its taste, its surface, its stem,
the branch, the tree, the countryside,
the air,
and the law in accordance with which
the apple fell ...*

*But that wasn't the real apple, was it?
He'd forgotten the weather,
the time of year,
the sun, the moon and the stars.*

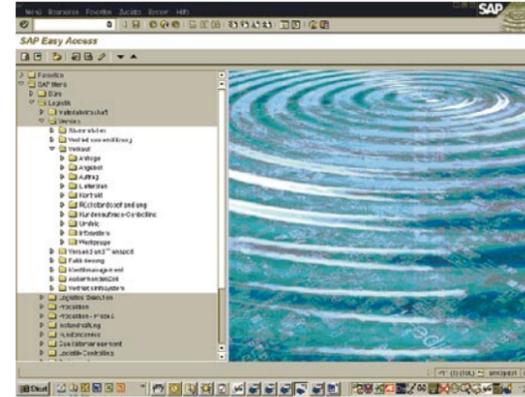
*He wrote a couple of thousand pages,
but he was still no nearer the end.
For he, who'd written all about it,
was part of it himself as well,
and so were the market and the money,
and Adam and Eve, and you and me
and God and the whole wide world ...*

*This penman finally recognized
that an apple just can't be described.
And then he gave up as vanity
the task of describing reality.
„A fruitless task“ he said,
and ate the apple instead.*



Honoured readers, I propose that we should all see the New Year in by enjoying a fine baked apple. I can already imagine that indescribably lovely smell caressing my nostrils. Can you?

A soft landing: SAP R/3 successfully incorporated into the Kurtz Group

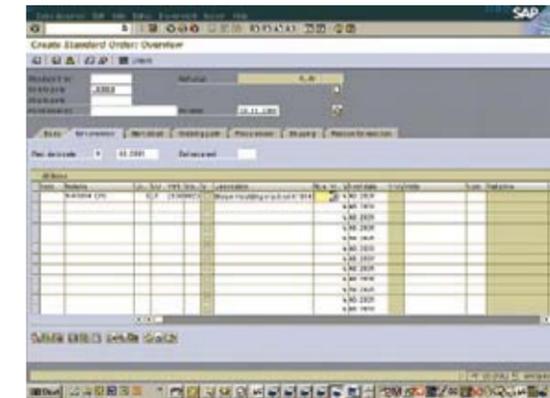


SAP R/3 ensures that our clients and suppliers benefit from interfaces which will prove essential in the coming years. In future, further projects such as e-business, archive systems and document management will be introduced. We are convinced that the choice of SAP R/3 has been the right decision for our group of companies.

The figures

The Kurtz Group has acquired licences for 350 users. The total costs for the project, including hardware, amounted to approx. DM 4.5 million excl. our own in-house services. The in-house services of 57 persons who made contributions to a greater or lesser extent amount to approx. 12 man years in only 14 months project time.

that those in charge of the project never failed at any time in their will and dedication. We would also like to thank all the employees in the above companies for their understanding in the face of the occasional irregularity in salary calculations.



Ready for off

If one considers the enormous effect the transfer to the new system has had on existing processes, the data processing team must be given the highest recognition for the professional manner in which it has carried out these tasks. Of course, with the benefit of hindsight we can see a lot which we could and should have done differently, but with a project of this size, it is generally assumed that there will be some initial teething troubles, and that the expenditure on man-hours must not be underestimated, either in-house or in-buying in services from consultants. We are proud to be able to say that during the whole of the change-over period it was business as usual. If in individual cases perhaps our customers and suppliers may have had the impression that something could have been better, then we apologise. However we can say with certainty

Recognition

Throughout the whole of the project it has been a pleasure to watch how the EDP team went about their work with such dedication. The project management team is to be complimented on their professional methods. During the whole of the introduction phase, the key users had a double workload in that they had to continue with their daily processing tasks whilst participating in the EDP team work. This required innumerable hours of overtime and Saturday or even weekend work. The project team members contributed their very best in building up the latest effective commercial processes. The end users ultimately accepted the new system with interest and an open mind. The company management is very grateful to all employees involved in the project, and of course all the employees in the system building, for their adaptability and dedication.

Preliminary remarks

KURTZ NEWS No. 19 contained a report on the preparations for an effective start. Since the last release our EDP team has been working tirelessly on the implementation. Although the project is not yet complete, we are proud to be able to state that KURTZ GmbH, Kurtz Holding GmbH & Co., ERSA GmbH, MBW GmbH and KURTZ Altaussee GmbH have introduced the standard SAP R/3 software with all modules and all plants, in all departments. The time schedule, drawn up 1 1/2 years ago, was followed to the letter in practically all start-up procedures. Fortunately we were able to avoid the possible risks which we had envisaged prior to the change-over, on the basis of other companies' experiences.

Objective achieved

Before the change-over we were in the world of I-sam and V-sam files. We were dealing with Basic programs and an insufficient operating system. Many program parts were in the course of time „homespun“. There were no further developments. By changing over to SAP R/3 we are now in a position to develop our data processing landscape to keep up with the latest technology. The broad scope of

ERCO setting the pace in the history



Göbel, but it was not immediately followed up and his discovery was destined to be forgotten. Much later, once an electricity supply had been facilitated by the development of electro-magnetic generators, Göbel's idea was adopted by Thomas Alva Edison, who has consequently been held to be the inventor of the light bulb. But all that he can with certainty be given credit for is that he was the one who nursed his 1881 light bulb through to its breakthrough at the 1889 World Exhibition in Paris.

Just as the filament light bulb took the place of the arc lamp in the middle of the nineteenth century, it too was superseded in the course of time by the fluorescent lamp. Fluorescent, or neon, tube lights have a light yield many times greater than that of incandescent light bulbs, which makes them a good deal more economical. And there is a similar change going on in the field of illuminants in our own day. Conventional lighting is being superseded by the new halogen lamps and halogen metal-vapour lamps, on account of the latter's superior light yield and the enormous savings made on energy consumption.

ERCO breaking new ground in its latest range of external lighting products

Having established their priorities and set their goals, ERCO have wasted no time in developing and constructing a completely new series of energy-saving

products, achieving the feat of creating 70 items „out of thin air“ in collaboration with their suppliers. These new products offer a level of technical precision which until now has only been available in interior lighting. The series features a number of innovations in lighting technology – using, for instance, optical systems from the field of lighting for architectural interiors which are widely recognised as being of the highest quality – and the onlooker's visual comfort is constantly made a critical priority. The lighting's construction and design have been developed in accordance with elements inherent in the external environment, and with protection types IP65 and IP67 these products are impervious to such factors as damp, dust and temperature fluctuation.

Casing and cover in gravity die-cast aluminium

Aluminium castings and high-grade steel are in themselves corrosion-resistant but are given an extra coating to minimize dirt deposits. The graphite surfaces are optically neutral and blend equally well into architectural surroundings as into gardens and green spaces.

Planning lighting on your PC

Light simulations and information on the subject of efficient planning are available to all interested parties on CD-ROM and on the Internet at www.erco.com.

A short history of light
The development of lighting **KURTZ** began a long time before the introduction of electricity. At first the streets and squares of the great cities such as Paris and London were lit with oil and later by gas lamps. But adequate lighting only became possible with the discovery of electricity.

The introduction of electric arc light dates from around 1805, using arc lamps that had to be refilled with coal at regular intervals. The invention of the incandescent or filament light (or light bulb) in 1854 was a stroke of genius on the part of the German watchmaker

Lamp casing 6.5 kg item weight; Cover 1.8 kg; Hinge 0.5 kg; Mount hinge 1.0 kg; Wall-mount 0.4 kg
All parts are low-pressure castings in aluminium alloy
GK Al Si 9 Mg DV.



Flexible solutions for flexible requirements ...

... demand flexible suppliers. With development **KURTZ** and realization times for new projects and products becoming ever shorter, the importance of reliable partners increases. Taking account of this aspect is what has enabled the company MBW Metallbearbeitung Wertheim GmbH to continue to win new customers over recent years.

Since this year Teamtechnik Maschinen und Anlagen GmbH have also joined their circle of satisfied customers.

Since 1976, this company, with its headquarters in Freiberg am Neckar (www.teamtechnik.com), has been developing and producing innovative modular production technologies, and currently employs a staff of 260. The most important target branches are the automotive industry including suppliers, the household appliances and electrical industries and medicine technology.

The company sees itself as a „think tank“, its staff consisting mainly of engineers and well-qualified specialists.

With the modular process assembly system TEAMOS 2, Teamtechnik have shown themselves to be the most flexible assembly platform worldwide. It has a new, thoroughly modular structure. The customer benefits from an extremely flexible assembly plant, a building block system with freely-selectable plant structures. All the requirements of modern production are fulfilled: the shortest possible planning phases and plant delivery times due to the parallel realization of parts.

Manual work benches, transfer modules or automatic stations: all TEAMOS basic modules can be assembled to practically any tailor-made layout the customer requires.



In changing market conditions, TEAMOS modules can be refitted and expanded at process and station level at lightning speed. This logical patented modular construction means that project completion times and costs are reduced enormously in all phases. Design, assembly and start-up can to an extent be carried out in parallel. Teamtechnik were pleased to demonstrate the performance of this

system at the Hanover Trade Fair 2001. A plant refit, which generally takes several days, was completed in minutes.

The pictures show examples of the TEAMOS 2 modular process assembly system. The framework components and sheet metal claddings are produced by MBW Metallbearbeitung Wertheim GmbH and supplied complete and ready for fitting.



Satisfied customers are our best reference

This motto is not just the key idea behind the company of HAUHINCO, but also behind the KURTZ iron foundry in Hasloch.



About 6 years ago the first orders for the traditional company HAUHINCO were meticulously processed. This included, for example, casting housings for crank piston pumps. KURTZ delivered outstanding quality right from the start, and let it be known that customer requests would be met with a willingness to help. This was a basic prerequisite for a successful cooperation between the two firms.

This positive development was begun with HAUHINCO arranging to concentrate its casting needs to the greatest possible extent on the KURTZ iron foundry. Today

practically all components (pump housings for 3K and 5K, gearbox casings, covers, flanges etc.) are cast at KURTZ.

Just as the company HAUHINCO has applied itself to implementing this partnership with KURTZ, the same dedication was shown toward the end of the 1960s in developing water hydraulics technology. For almost 100 years HAUHINCO has been offering well-designed and high-output systems for the most demanding requirements in mining and heavy industry. At the beginning of the 1940s HAUHINCO was practically the market leader in the home mining industry in the Ruhr area. 90% of the underground miners were equipped with HAUHINCO tools. With the decline of the mining industry HAUHINCO was also forced to find a new direction.

With the systematic developments in water hydraulics they are once more the market leaders, but this time worldwide. Today the extensive HAUHINCO group of companies concentrates its activities on the water hydraulics sphere of indus-



try, offering innovative, complete solution concepts. These include tailor-made systems and components and a comprehensive service.

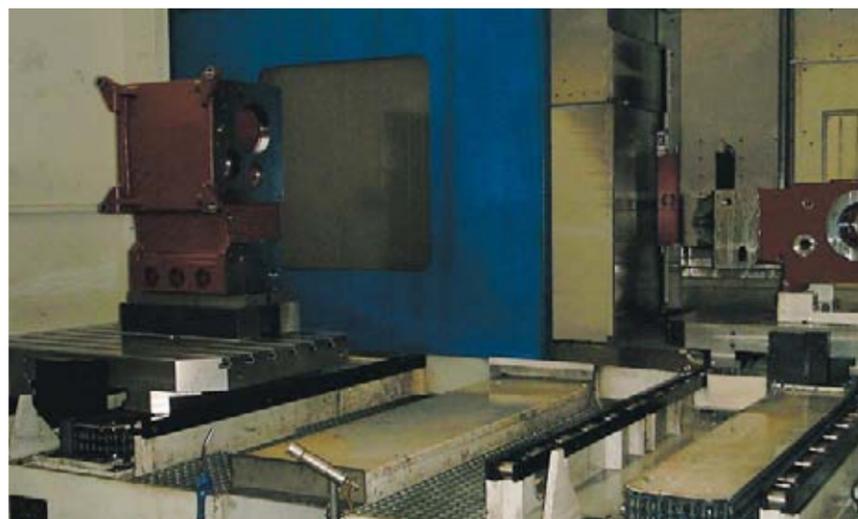
The advantages of water hydraulics, e.g. non-flammability, absolute environmental friendliness, and the numerous technical benefits are aspects which cannot be ignored by the following branches of industry:

- mining
- steel production and working
- vehicle manufacture
- shipbuilding
- offshore technology
- timber and paper industries
- nuclear industry, etc.

The high viscosity of water, whether un-lubricated or with emulsions, makes it essential to ensure the greatest precision when machining. Using the very latest CAD and 3D technologies and the latest cutting production systems, HAUHINCO is in a position to offer the best systems worldwide.

Thus a commercial relationship begun 6 years ago has become a lucrative link for both sides, with the above motto as a guiding light.

Further details and information can be found at www.hauhinc.de.



Precisely processed – new processing centre at KURTZ

Investing to create the conditions for highly efficient production and top-quality workpieces – this is the basic idea which motivates the Kurtz Group in its constant endeavour to become ever more productive, more responsive to demand and more economical in the field of production and to bring about significant reductions in the down-times between machining stages. The great variety of products – products for the supply field as well as machine construction products – made it necessary for us to take a great number of different factors into consideration as we rose to meet this challenge.

The right answer for the Kurtz Group finally turned out to be the creation of a machining centre which is versatile, works fast, and produces whole parts as far as possible with just one clamping and in the shortest possible time.

The company Hüller-Hille sees its machining centre nbh230 with pallet storage system as an all-purpose machine.

Fitted out as it is with a high-power 37 kW main spindle working at 25 – 10.000 min⁻¹ the Hüller-Hille centre offers both conditions for steel and grey cast iron machining and likewise high speeds for light metal machining. The spindle's high load torque means that a feed rate of 25,000 N can be produced, thus making it possible for a steel volume of ca. 700 cm³ to be machined per minute. The machine foundation with its two parts X and Z is stabilized where it stands, with the two parts screwed to each other with large-interface fittings, and is furthermore optimised according to the Finite-Elements Method. It is inherently rigid in construction, cast with strong walls and ribbed throughout, and has a closed, torsion and vibration-resistant portal stand. It is furthermore



equipped with a compact cast-iron table housing, an NC-rotary table with 0.001° calibration, and digital axle drives. All linear axles are equipped out with prestressed, play-free guidance fittings. All these features allow for a considerable range of procedures, and for speeds up to X 1.200 mm, Y 1.000 mm and Z 1.200 mm.

Constant availability and consequently longer machine running times are ensured by the use of Siemens „Sinumerik 840 D“ controls with a modular 32-bit-microprocessor CNC contouring control system. A Windows operator front facilitates inputs to the NC operating panel, and gives a clear picture on the TFT colour screen with its integrated NC-keyboard and machine control panel. Further features of the „Sinumerik 840 D“ include a tool magazine operating programme and a tool management facility with automatic sister-tool strategy. This tool magazine has room for 200 tools, and as it is a Hüller-Hille machine it goes without saying that it has a main-time tool-changing facility and user-friendly tool management. The magazine is 650 mm long and 325 mm in diameter, which makes it capable of accommodating a wide range of outsize tools.

The basic machine is furthermore equipped with a pallet storage facility, a rotary storing system designed to take seven pallets. The manipulator situated in the centre of the container works on one pal-

let at a time. This means: low masses, low wear-and-tear, and higher dependability. A revolving loading and setting up space is an indispensable feature, and makes loading and unloading possible irrespective of whether the machine is on main time or not.

What of the future for production at KURTZ?

The technology provided by the new machining centre makes KURTZ fully capable of manufacturing difficult and complex parts to order with relatively short production times. We can keep to the delivery date specified by the customer and can produce a huge variety of parts.

A further feature is that we at KURTZ can now be even more responsive to requirements and deadlines when handling our customers' commissions, and can fulfil the most demanding specifications in respect of production procedure.

A highly advantageous feature of the centre is its multi-pallet storage system, which enables the centre to work to its fullest potential by allowing new parts and new programmes to be fed in during main time, thus avoiding time-consuming machine re-setting procedures. Replacement parts can also be fed in through the pallet system along a further channel that requires no operator. The centre's safety mechanisms check that the levels of precision that we require from it are constantly maintained. This is carried out by a drill defect checking function, a Renishaw measuring sensor and a built-in overall tool monitor.

We at KURTZ are all agreed that the decision to invest in a Hüller-Hille machining centre was one that will continue to pay off in the future. Far from being merely an investment „on paper“, it is one that has long since become reality.

KURTZ give shape to ideas – aluminium low pressure sand casting in closed sand moulds



Once again this formulation has turned out not just to be **KURTZ** an empty slogan, but as a principle that becomes reality in practice. What is described in this article is the coming-into-being of a low-pressure aluminium casting installation – from the first enquiry through to its being put into operation. It shows how KURTZ can take a customer's idea, mould it, cast it and give it shape and form.

It was about a year ago that Michael Steinrücken from the metal foundry Steinrücken in Olsberg-Bruchhausen first came to KURTZ with the question: „Does KURTZ custom-build low-pressure sandcasting installations? Does KURTZ really take customer requirements into account?“ That was the genesis of an extremely interesting and demanding project.

Until then the Steinrücken metal foundry had predominantly dealt in aluminium and magnesium gravity casting, for products ranging from door panels and garden furniture through to complex cast parts for the automobile industry. Casting took place in sand moulds, furan resin and cold-box. The moulds are shaped mechanically, under vacuum and by hand. And so Steinrücken's place in the market is fairly clear –

they were versatile and fast-working producers of cast parts.

The market is constantly calling for higher quality serial parts. Serial in this context does not only refer to the design of the parts but also to the casting quality to be maintained. Parts produced in this way are referred to as „ready-for-use test stand production runs“.

This makes it clear that the requirements in respect of stability and stretching are very high. Parts such as these are also required for feasibility studies or for a prior stage to pressure-casting tools. The series range from 5 to 50, and sometimes go as high as 100 pieces. But one thing they all have in common, which is that the customer needs his parts „tomorrow at the very latest“.

The requirements for the casting machine were quickly established on the basis of these factors. Herr Steinrücken made the following specifications:

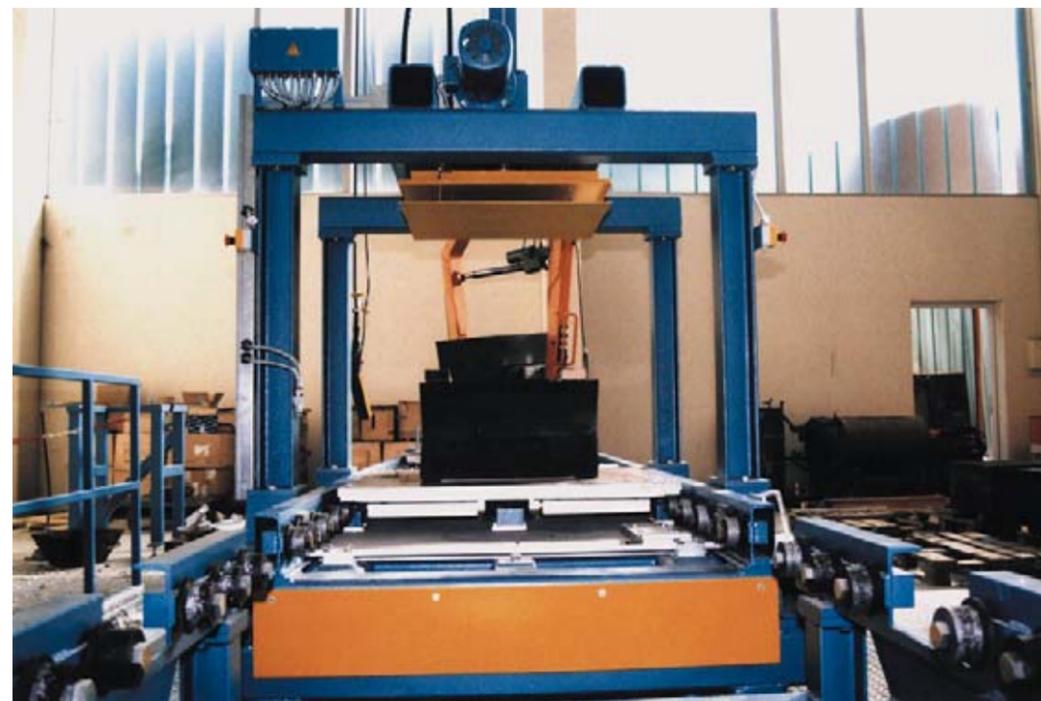
- Low-pressure sandcasting in closed sand moulds
- Holding down clamps system for sand moulds with automatic mould height recognition
- Mould size: width = 1.200 x length = 1.200 x height = 1.000 mm with the possibility of casting 2.000 mm-long moulds in addition
- The moulds must be able to be constructed outside the casting installation
- Conveyor technology for the sand moulds
- It must incorporate a furnace-changing concept

Low-pressure sandcasting is by no means uncharted territory for KURTZ as several machines have already been designed and put into operation, principally for Rapid-Prototyping. What was new for KURTZ was the application of sandcasting in closed moulds, but that presented no problem in respect

of machine technology, as it basically calls for a combination of low-pressure sandcasting in open moulds and low-pressure casting in permanent gravity dies.

A particular challenge was presented by Herr Steinrücken's requirement that the machine should incorporate a clamping system with automatic mould height recognition. The essential point was that the clamping system should be designed in such a way that the mould should not be damaged by excess pressure. The heights of the various moulds had to be recognized, but also firmly secured on the machine. KURTZ's answer to this problem was a frequency-regulated drive with a special measuring system.

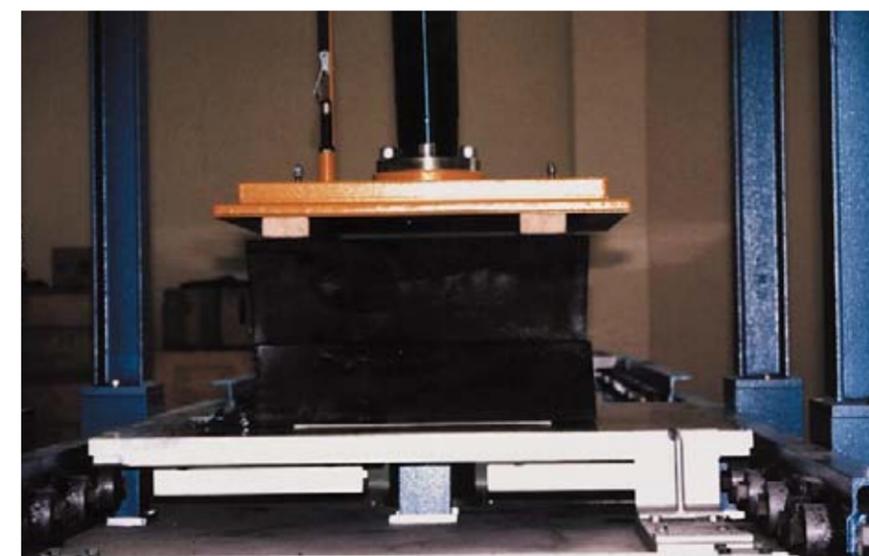
As a result of projected series of up to 100 pieces and maximum mould dimensions of 1.200 x 1.200 mm (2.000 mm), a way had to be found of building the moulds outside the machine. This problem was solved with a design incorporating changeable mould plates



on which the sand moulds can be built. These are placed on a conveyor in front of and behind the machine and put into the machine and taken out by hand.

The next most important point in the specifications was a furnace-changing concept, the advantage of which has to do with the short reaction times of various alloys. Another advantage is that a second furnace outside the pouring station can be used for melting so that higher numbers of pieces can be cast on one and the same day. Using a crane and special techniques in the furnace, and with the help of mechanical centring and changing procedures, the founder is fully capable of carrying out a furnace change very quickly. All the necessary media are connected up by means of an automatic coupling.

Speed and flexibility were also taken into account in the construction of the furnace cover system. All the important covers are fitted out with mechanical fastening units. For the purpose of filling and degassing the furnace, all that is



necessary to do is to dismount one small cover. The feed tube itself can be pulled out separately.

The low-pressure controls were conceived and can be described as the heart of the installation. They make it possible to effect a rapid and compact filling of the dies (sand moulds) and take full account of other characteristics of sand-casting from Rapid-Prototyping.

The machine can be adjusted to as many as 20 different pressure levels, defined in mbar and seconds. Remote controls enable the caster to determine the starting point for the filling of the mould directly on the mould and to keep a visual check on the procedure at the same time. He is also able to influence the casting while it is in process.

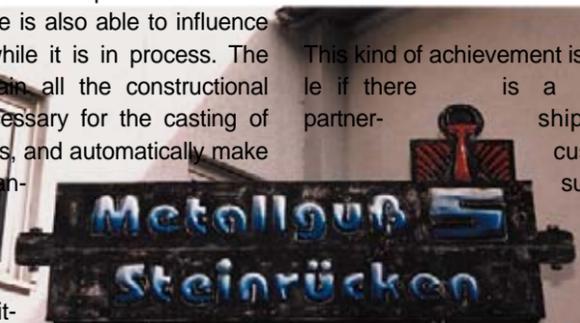
The controls contain all the constructional elements necessary for the casting of multiple pieces, and automatically make good the quantity of metal that has been removed. It goes without saying that parameters such as casting weight, raw material density and so on can be chosen at will.

The visualization of process control is effected by the presentation of all procedural stages and process parameters, while they are going on, on a 12.4" colour monitor, for example the furnace and melting bath temperatures or the pressure curve, in the form of ideal and actual values (in real time).

The project was finally brought to a highly satisfying end – once again, KURTZ had delivered a machine which is not available in any catalogue in the world in that particular form.

The period of time from the order until the machine started production was a mere six months.

This kind of achievement is only possible if there is a really good partnership between customer and supplier, and in this respect we can only take off our hats to the Steinrücken metal foundry and thank them heartily. Between us we managed to make an idea into reality.



Highlights from ERSA at the Productronica! Unqualified success at the world's biggest electronics production trade fair!



Representatives from the electronics industry met in Munich from November 6th to 9th this year for the world's biggest electronics production fair. This is a biennial event and on account of the economic and political situation at the present time, there was this year an unprecedented mood of uncertainty in the air. It was however soon clear that the 14th Productronica was going to be a great success for ERSA. After a somewhat tentative start on the first morning the more than 360m²-large ERSA stand was positively besieged with visitors from the electronics field.

There were naturally good reasons for this. It wasn't so much the attractive design of the stand with its generously



is capable of delivering ideal soldering profiles. Results of this quality can be achieved quickly and easily with the help

being expressed at the ERSA stand. ERSA had in fact seen this trend coming well in advance and had adjusted its product range accordingly:

One genuine highlight of the fair was ERSA's place & solder, the world's first system to be able to equip and selectively solder an out-of-the-ordinary workpiece in one procedural stage. We were overwhelmed by the interest paid to this product, but there was no shortage of enquiries into Highspeed and Compact from the VERSAFLOW family of selective soldering machines.

In the wave soldering systems sector the public's interest focused both on the newly-presented ERSA PowerWave soldering nozzles, and also on a variety of economical and versatile lead-free soldering systems and protective gas installations.



Of all the specialists, ERSA is the company with the world's broadest range of products to do with soldering technology. It there-

live demonstrations that were given on the big stage and often viewed by 100-and-more-strong attentive audiences as

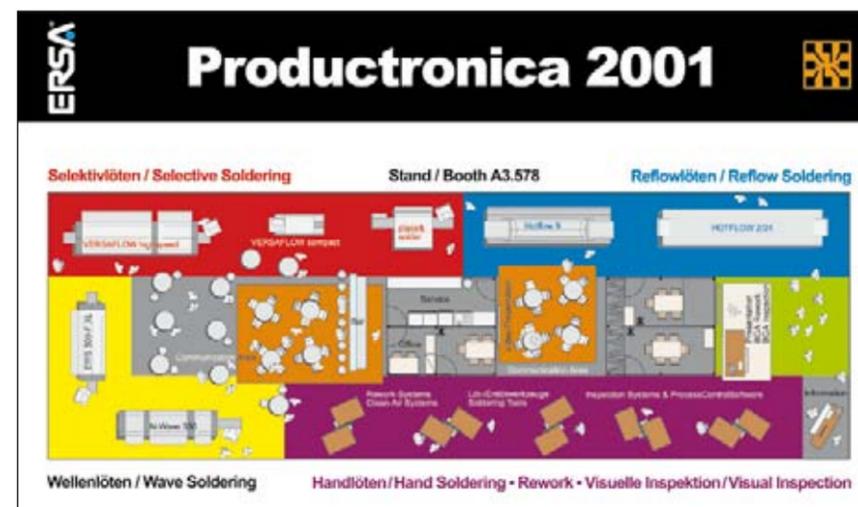
optical inspection has been extended to include two further highlights. The ERSA-SCOPE Inspection system 3000 XL was specially conceived for large-sized circuit boards and templates and makes it possible to observe hidden soldering spots in an area of 600 x 700 mm. And at the same time, in spite of the large displacement area, the XL-table offers positioning precision down to the nearest µm. The new ERSA 4D SCOPE accommodates axes in 4 directions: In addition to the conventional axes x-/y- and z it incorporates, via several ball joints, the freely moveable optical unit as a 4th axis. As a result of its unlimited mobility, this allows inspection from all perspectives. This means that it is now easy to take pictures, quickly, of positions that are particularly difficult to inspect – up until now this has always necessitated long-winded and meticulous adjustment work, if indeed it was possible at all. The individual pictures can finally be saved, managed and viewed with the help of a built-in IDView Image Explorer on PC.

It only remains to say that ERSA's presentation at Productronica provoked a quite extraordinarily positive response from the company's customers and potential customers, both from Germany and, we are glad to report, from abroad. The contacts that were made at the fair and the many concrete projects that were mooted mean that we can expect good business in the wake of this year's Productronica, which was clearly an unqualified success for ERSA.



dimensioned colourful motifs – that was a secondary factor. The main factor was the broad range of innovative products which ERSA was able to present to its many expert visitors. There was high praise for new products in all fields: ERSA's HOTFLOW 2/24, for example, is the flagship of a new generation of Reflow soldering systems and one that sets completely new standards. Even when used lead-free, the 7.5 metre-long installation with 24 separately regulatable heating zones and 8 cooling zones

of the newly-presented EPOS 1 process-optimization software. But in addition to its technological prowess, the system also has a number of quantifiable benefits. The lowest possible energy and nitrogen consumption levels combine with the highest possible machine availability times to give the most economical results overall. Mechanical selective soldering is on the up, and this is a trend which was fully confirmed at the Productronica, with a correspondingly high level of interest



fore came as no surprise to find that the ERSA's hand-soldering irons and inspection systems attracted just as much attention as did the soldering machines which constitute the company's profit centre. The products in these fields earned high praise, and more importantly, brought in plenty of orders. Interest focused above all on the systems with Rework applications, that is to say systems which de-solder defect complex constructional elements and re-solder new replacements. This was not so much due to the impressive

to the quality and inventiveness of the technology in the products. In this case what ERSA has on offer is a complete family of products which can be interchanged and combined, and which in addition to their outstanding performance offer unbeatable value for money. The IR Rework Center, the BGA/SMT-Placer and the RPC camera technology from the 550 series are selling outstandingly well – another instance of ERSA fine judgement of the way the market is going. ERSA's range of goods in the field of



Process-control – indispensable, even for SMT/BGA repairs



ERSA's Rework products are a growing family!

Shorter product life-cycles and broader product ranges are just two of the reasons why, now as much as ever before, it is still necessary to go in for after-purchase work on units of electronic components when producing electronic goods. This is still the case, in spite of the increase in manufacturing quality that has been seen in the most modern production plants for many years now, and in spite of established procedures for ensuring quality control. The infrared technology developed by ERSA has proved to be just as versatile and dependable as other technologies in the repair field. Both the ERSA Reworksystem IR 500 A and the ERSA Placing system PL 500 A have again and again proved themselves capable of carrying out economical and efficient refinishing on the greatest variety of different SMT components. ERSA's family of Rework-products has now been extended once again.

The (principally industrial) users of the microprocessor-regulated Rework system IR 550 A and the precision placing system PL 550 A now have a combination of machines available to them which will hardly leave any of their desires unsatisfied in respect of performance, versatility and process control.

The name of the game is Reflow-Process-Control (RPC), and what lies behind it is the idea that the repair procedure can be facilitated by using the technique used for decades in hand soldering, namely the observation of the soldering spot during the soldering process.

A significant element in this concept is the Reflow-process-camera, which even in the case of BGA's leaves a free view of the soldering spot, and is combined with processor-regulated high-power infra-red radiators and a reliable temperature-measuring device. The optimized infra-red radiator technology of the IR 550 A facilitates a comfortable working distance from the unit in question. This working distance in its turn makes it possible to

observe the soldering spot during the soldering procedure with a high-resolution Reflow-process camera built in to the PL 550 A. It is likewise possible to measure the temperature in the immediate vicinity of the construction group without touching it. The temperature and the critical optical information concerning the melting of the solder are compared and combined to give information which provides the basis for a successful repair, in which exactly the required energy is applied to the soldering spots and the construction parts are not overheated.

Another particularly pleasing feature is that it is simple and unproblematic to handle. The system operator, assisted by the sensor technology, can quickly ascertain the optimal procedure parameters for every new repair, adjust to the desired temperature profile and save the data in the system. This ensures that the soldering results can be repeated, and software delivered with the equipment enables the user to document data in connection with particular construction groups. The reliable placing technology of the



PL 550 A provides the finishing touches which round off the performance capacity description and make the ERSA Rework family a technologically and economically highly attractive proposition even for small businesses.

100. VERSAFLOW selective soldering systems have already been installed worldwide

Fully automated selective soldering is all the rage

Soldering is an ancient art. It has its origins with the ancient Egyptians, who knew how to join precious metals as much as 5,000 years ago. Since the discovery of tin as a metal for soldering, about a thousand years later, the physical process of soldering has hardly changed – unlike the tools used for the purpose.

A real milestone in this respect came in 1921 when ERnst SACHs made his patent application. The founder of the company ERSA invented the first series-produced electrically-operated soldering iron, which meant that the energy required for the tip was no longer



VERSAFLOW

provided by the incandescence of an open fire, but came direct from the electrical power supply. By 1998, when the first VERSAFLOW selective soldering system was produced by ERSA, mechanical welding had long since been state-of-the-art. Wave soldering units have been part of the ERSA range of products for 35 years, as well as reflow soldering systems for at least 10 years. Yet although both these well-established production technologies were served by full ranges of automatic production plant, there was a number of applications which to date still had to be joined manually using the soldering iron. These generally consisted of components, such as microswitches, relays, transformers and connectors, the geometry of which does not allow them to be surface-mountable, or whose heat stability is not suitable for reflow soldering processes.

With the VERSAFLOW system a decisive step forward has been made in fully automatic electronic production, as it can be used in precisely these applications for the highest quality post-soldering of components onto pre-manufactured SMD components. Flexibility, modularity and speed are the special strengths of the ERSA VERSAFLOW. Of course, this innovative system is also fitted with extremely user-friendly Windows™ – based software which is especially easy to use during system set-up, in configuring the soldering program and in ensuring reproducibility of the soldering results and the documentation thereof.

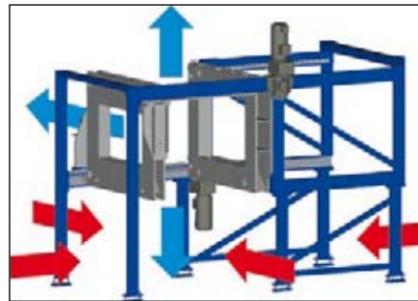
The technical and economic advantages of the VERSAFLOW selective soldering systems have of course not gone unnoticed by the market, and so it is no surprise that many of the major big-name companies worldwide have opted for plant made by ERSA. The VERSAFLOW

client register thus reads like a Who's Who? of electronic production. The fact that the hundredth unit – in this case a double-crucible version – was not produced for the export market, but for a German company, shows that, also at home, the trend is towards selective soldering, and with the complete VERSAFLOW range, ERSA has exactly the right solutions for all selective soldering tasks.



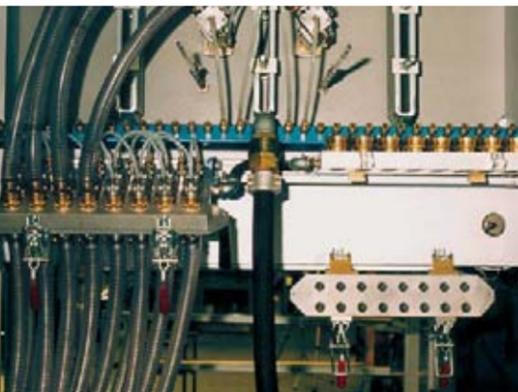
The shape moulding machine of the future – modular, flexible and favourable in price

„What is an ideal shape moulding machine?“ This **KURTZ** was the question at the beginning of the new development KURTZ firstly presented to the public on the occasion of this year's International Trade Fair for



Plastics and Rubber in Düsseldorf, Germany.

Shape moulding machines are machines for the processing of particle foams, such as EPS or EPP. Steam, air, water and vacuum are the necessary media to sinter the initially light and loose beads and to produce a variety of products like bicycle helmets and surf boards, bumpers for cars or packaging material for computers. In order to find the ideal shape moulding machine KURTZ applied new methods. The central functions of the production process were improved by new technologies - always in view of the maximum benefit for the user.



Mould change

A high user benefit develops, for example, when technical solutions can make work easier for the operator or replace manpower. One of the most complicated processes is certainly the mould change. It is possible to take up every mould system available - either KURTZ systems or those of competitors. This enables a maximum flexibility for the user. The use of new mould packages in blocked version is a special advantage.

After it has been counterbalanced at its centre of gravity and mounted on a clamping frame, the mould package is put on the ejector frame by an electric chain hoist, and from there it is transported into the right half of the steam chamber. Especially connecting the often numerous material and compressed air connections to the filling injectors becomes much easier.

Handling during production

The removing possibilities, for example, demonstrate the high flexibility. Usually two kinds of removal can be realised. As always, it is possible to remove the mouldings to the top, and furthermore, the new machine concept allows a removal of the mouldings to the side. There, stacking devices can form packages as usual.

Due to the modular construction, enlargements can easily be carried out. This is especially important if not only mouldings are to be removed, but also if foils or other parts are to be inserted into the mould. The considerably improved accessibility and the large opening stroke of 1.500 mm are excellent conditions for these requirements.



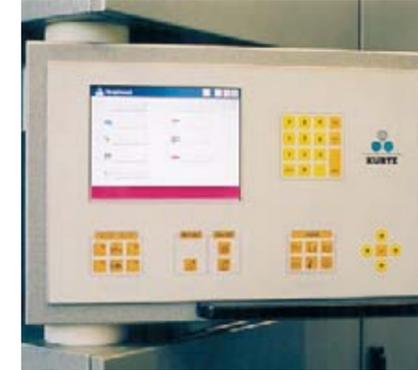
Hybrid drive

The closing forces arising at the maximum permissible steam pressure of 5 bar were limited to the area of the chambers. It was obvious that two separated drives could be applied: one high-dynamic drive for the travelling motion that requires only a low effort and a strong compact drive for a high closing force. For this purpose a new closing system has been developed on the basis of already existing elements. Basically, it is made up of a locking unit and a hydraulically driven double-action cylinder. A servo motor is used for a fast travelling motion during opening and closing of the machine. With this drive the fast motion speed is roughly two times as high as with purely hydraulic closing units. This leads to a further reduc-

tion of cycle times and increases productivity.

Operation

The productivity of a shape moulding machine, however, is not only determined by the design of its mechanical elements. The total capacity of the machine can only be used completely when the machine and process parameters were adjusted optimally. A process-oriented operator's guidance facilitates to make adjustments systematically structured. Also less skilled operators are able to find reasonable adjustments quickly. A clearly arranged, intuitive and self-explanatory operating surface, however, is also



An integrated online-assistance provides additional information and adjustment proposals for the process parameters.

Into the world of Windows

In order to provide these features comfortably it has been decided to equip the operating terminal of the shape moulding machine with a touch-panel. The operating system is

Windows CE®. It is no problem to provide further languages. An Ethernet connection (TCP/IP) links the shape moulding machine with the world of Windows-Office. Parameter sets can also be saved centrally and put in archives. Furthermore it is of course still possible to store data on a

compact-flash-card, on a floppy disk or in a network. A historical trending is used to document process conditions.

This is especially important for the production of safety-relevant components in the automobile sector. Warnings and error messages can also be stored in a special history and so it is easier for the servicing personnel to find errors. The control system automatically generates maintenance calls, depending on the operating period, in order to guarantee a high machine availability.

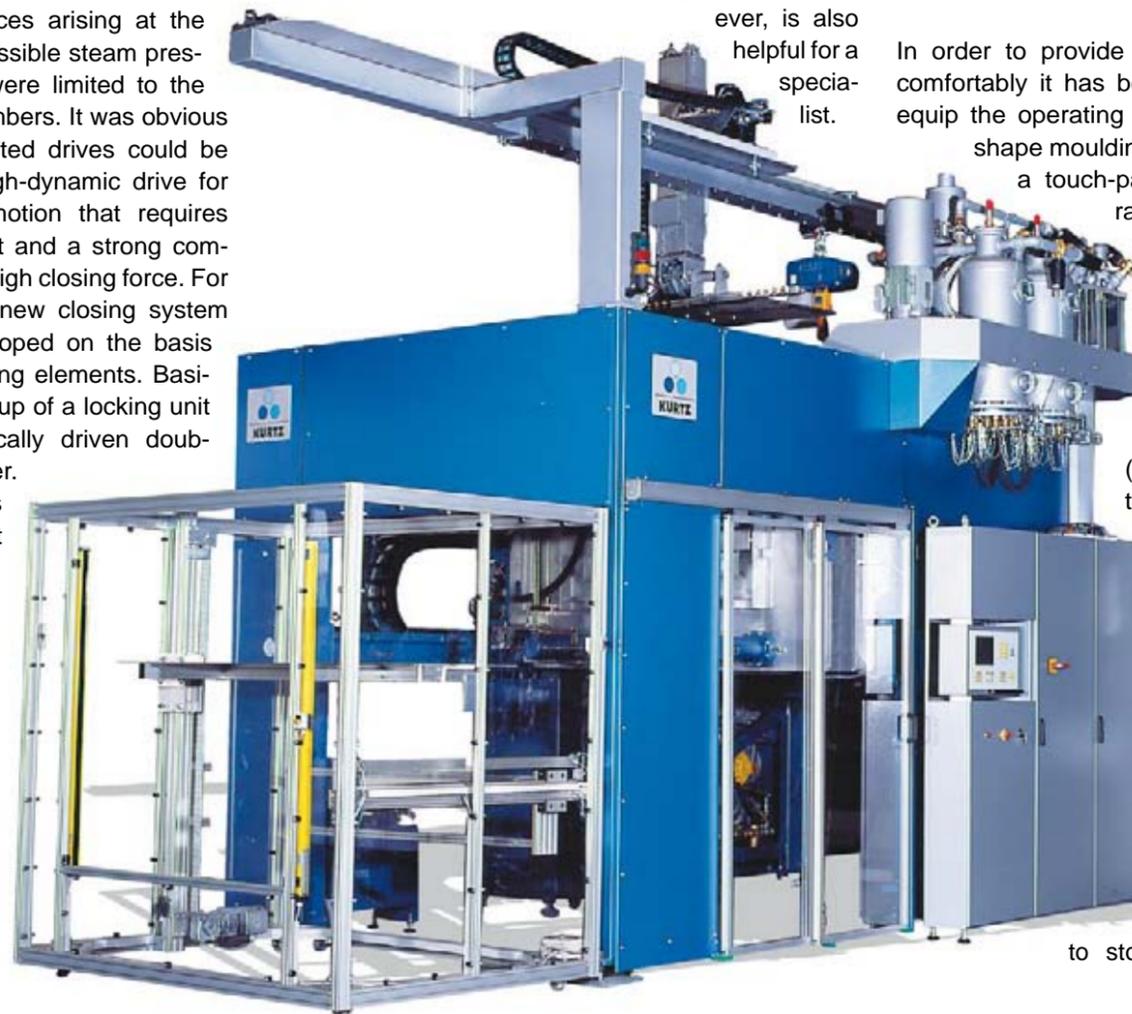
But the Ethernet interface has even more to offer: It is possible to comfortably exchange data with the manufacturer's servicing department via a server equipped with a modem. Furthermore, error messages can be sent in the form of e-mails or SMS.

Permanent change

Is there an ideal shape moulding machine? Requirements change and the general conditions and the means available change even faster. Consequently each optimum is temporary: with a changing environment different opportunities become reality.

The more flexibly a system is designed the easier it can be adapted to altered environmental conditions. Modularly structured systems like the shape moulding machine mentioned above enable high flexibility at low expenses.

Due to this flexibility, the user can be sure to run a machine that can be optimally adapted in the future.



KURTZ at the K'2001: Vision – Innovation – Business



This was the motto of K'2001, the world's biggest trade fair for the synthetic processing industry, held in Düsseldorf from 25.10. to 1.11.

The fair was host to almost 230,000 visitors from the trade, who came from all over the world. Naturally enough, KURTZ was right in the middle of the whole proceedings, with a stand covering an area of more than 300m².

In its turn the stand hosted a freshly-developed product that was making its trade debut – the new shape moulding machine K 1014 E5. The fundamentally new concept behind this machine guarantees maximum versatility in combination with the shortest possible cycle times. But these were not the only factors that astounded our visitors and indeed our competitors, who were all equal-



ly admiring of the hybrid drive and above all the high-speed mould-changing system.

The latter spared no praise for the new concept, and congratulated those responsible for their part in breaking significant new ground in the field of shape moulding.

A further exhibit on the stand was a block mould ECOMAT, very likely the most economical method of producing a good block available today. The third exhibit of note to be

presented was the so-called „egg-laying wool-producing dairy pig“, a batch pre-expander for smaller quantities of raw material. This multi-functional device is not only designed for the conventional pre-expanding of EPS and other particle foams containing blowing agents by means of water steam; it can also pre-expand a number of special materials simply by heat contact. Nor should we forget that it

can also pre-expand EPP and EPS.

All in all, K'2001 can be considered to have been an extremely suc-

cessful event for KURTZ. There were considerably more visitors to the stand than were expected, particularly from abroad, and the new machine concept showed itself capable of convincing all comers. As a result of the exceptionally positive feedback we received, KURTZ, in spite of the somewhat muted forecasts for world growth, can afford to be optimistic when facing the challenges to be met in the coming years.



Polyurethane cold-cutting – the cutting technology of the future

How it has been done until now:

KURTZ Polyurethane rigid foam has always been cut either with blades or wires. When cutting blades are used, the space required for the cutting means that often only one blade can be used at a time. When wires were used, then we had recourse to oscillating cutting frames with a number of fixed wires which required huge foundations, over a ton in weight, because of their high level of natural oscillation. When a panel with a different thickness had to be cut, then the whole wire frame had to be set up anew and changed.



The theory – How could we do it better?

„Cold-cutting“ is a displacement process applied to cuttable materials which guarantees unique cutting results. The most influential factor in the achievement of these results is the degree of frictional resistance between the wire and the material being cut, which converts energy into heat. This heat is transferred through the length of the wire's cutting edge to melt and divide the material. Even a small change in the quality of the cutting edge results in a renewed and self-regulating rise in resistance.

THE NEWS FROM KURTZ:

How it can be done even better

The principle at the heart of the new cutting machine is a panel cut with a power-driven double cutting frame stabilizing the masses being moved. This means that the machine

can do without special foundations and is thus easy to install and to put into operation.

The cutting frames are positioned in guideways specially developed for the high levels of acceleration (19 x the acceleration of earth). The cutting wires are held exactly in position by means of wire guidance mechanisms which were designed specifically for this procedure and which stay in place even when acceleration is at its highest.

The wires can, if desired, be warmed with a small electric current in order to achieve better cutting results, a procedure which is recommended in the case of low and middle polyurethane rigid foam densities.

The high dust levels generated by polyurethane rigid foam cutting necessitated the development of cutting wires with their own particular profile and in special alloys, which have resulted in unprecedentedly high levels of cutting quality.

Naturally enough, tried and tested as it is, the KURTZ NC wire adjustment system is also part and parcel of the new cold-cutting technology, with a newly-developed wire holder which renders a wire relaxation mechanism unnecessary.

Even in the case of low levels of contact pressure (low densities), the new propulsion system guarantees the transfer of high propulsion power (high densities and numbers of cutting wires) to the block being cut.



Training in the Kurtz Group

At the present time, the Kurtz Group is training 95 young people in 15 different trades. Each training course takes the trainees to the following four firms in the vicinity of Wertheim: KURTZ GmbH and Kurtz Holding GmbH & Co. in Wiebelbach, and ERSA GmbH und MBW GmbH in Bestenheid. They thus benefit from a many-sided and varied training which gives them insights into a number of different product ranges.

Every training programme is based on the guidelines laid down by the IHK (Chamber of Industry and Commerce) specifying the knowledge which trainees have to have learnt by the time they take their final exam. These guidelines determine the proportion of time trainees spend at the various works; they change firms regularly, with longer periods naturally being reserved for the departments responsible for their chosen special field. For the industrial managers, for instance, this means longer periods in personnel, accounts, sales and the buying office, whereas industrial mechanics are to a large extent trained in the production and assembly departments and in the training workshop. In addition they attend an area training course put on by fabi e.V. (the training association of firms in the Main-Tauber area) on the pneumatic and hydraulic control technology. The construction mechanics – apart from their basic course in the training workshop – are taken to the departments for pun-



ching-out, lasering, bending and welding. Trainees in energy plant electronics, once their basic training is over, are mainly trained in the production and assembly departments, like the industrial mechanics, and additionally in the electronics workshop.

It goes without saying that achievement is rewarded. In addition to the grades awarded according to the official system, there is also an in-house assessment system which takes note of good performance at work.

The duration of the training courses ranges from 2½ to 3½ years and depends on prior training. In the commercial fields, the training period for a trainee with the school-leaving certificate Abitur is reduced from 3 years to 2½; for those learning a trade, prior training can mean that the course will be six months or a year shorter.

The Kurtz Group's training programme also includes special events, such

as an excursion once every two years for all trainees. This takes the form of a visit to an industrial company which has business relations with the companies of the Kurtz Group. And on occasions such as the careers information day, Berufs-Informationstag or BIT for short, trainees and trainers alike are gathered to pass on their knowledge and experience to the trainees of the future. The point of this is to make it possible for those interested to get practice-oriented insight into the various career possibilities they may be considering.

The Kurtz Group programme offers varied, comprehensive and interesting training courses. The pleasant working atmosphere and the good chemistry that predominates among colleagues and workmates mean that work at Kurtz is something that can be enjoyed. We as trainees find it very good that our trainers are ready to help us when problems crop up during our courses. The trainees' excursion and the rewarding of good performance are two other elements which we appreciate very much.



*Trainees as editors:
Michael Vogel, Stefan Brauner, Andreas Oetzel,
Evelyn Wiegand*

No limits – Sport in the Kurtz Group



A year ago we witnessed the beginning of a new measure of involvement in the Kurtz Group in popular sporting events. As a result of enthusiastic participation in and feedback after past events, we finally chose four events for the year 2001. These were the running race around the Kaffelstein promoted by the TSV Kreuzwertheim in July in Kreuzwertheim, the Country Tour cycle race put on by the Velo Freunde Wertheim in September, the 1st Wertheimer Messelauf under the auspices of the SG Wartberg and the Wertheim Police Force in October and an internal table tennis tournament.

The weather forecast for the race around the Kaffelstein was not favourable, but this did not prevent around 120 runners participating, among whom

more than 60 were from the Kurtz Group. A light rain began to fall as soon as the starting gun went off. This made for difficult running conditions with the ground soon becoming soft and slippery. But the overall final results were an improvement on last year and showed that many runners had made very good time. In the various classes, KURTZ and ERSA staff carried off 5 third places, 7 second places and 3 firsts between them. One hears that insiders are already referring to the Kaffelstein run as Kurtz's home course.

Following the event it was possible to donate a total of over 3,500.- DM to help orphans from Gomel in Belarus, the sum which had been „run up“ by participants from the Kurtz Group. The next highpoint was the Country

Tour cycle race, an event which we had participated in the previous year. The Tour began in thick fog and at low temperatures. Nevertheless, the Kurtz group of participants (70 out of 210) was the biggest individual group, and the sun did finally come out at the end of the day.

Staff members rounded off the Kurtz sporting season by competing in the 1st Wertheimer Messelauf and were once again the biggest company group among over 300 runners.

At all sport events the number of participants was much higher than the promoters expected and the large turnout of Kurtz staff did much to enhance the popularity and success of the races and to assist the societies in their promotion of these events.

Honours at the KURTZ Group



The picture shows the honoured employees of the Kurtz Group from left to right.

For 40 years on the company staff: Nazario Gesuato, KURTZ GmbH, Head of Production Dept., machine factory Wiebelbach; Günter Schwab, KURTZ GmbH, Head of Group Electrical Mounting. For 25 years on the company staff: Ewald Garrecht, MBW GmbH, Managing Director; Gerhard Kempf, ERSA GmbH, Work Preparer Soldering Machines; Ute Arnold, KURTZ GmbH, Secretary; Heinz Karl Diehm, KURTZ GmbH, Technician; Uwe Meister, KURTZ GmbH, Design Engineer; Gustav Dittmeier, KURTZ GmbH, Head of Foundry Dept.; Roland Weis, KURTZ GmbH, Core Moulder, is missing. The management, the works council and all colleagues congratulate the honoured employees.

The editorial committee – 10 years, many minds, thousand ideas



The KURTZ NEWS editorial committee (from left to right): Hans Blum, Tilo Keller, Thomas Muehleck, Bjoern Dewes, Wolfgang Steigerwald, Harald Sommer, Georg Hegmann, Walter Kurtz, Ulrike Schoeps. Bernhard Baumann, Hubert Haim and Alexander Schmidt are missing.

„Ten years of KURTZ NEWS“ – When one looks back at KURTZ's long history, so rich in tradition, then ten years seem a very small period of time. And yet these ten years of KURTZ NEWS or, if you like, 20 editions of a customer and employee magazine, seem already to have become a tradition in themselves, and it is no longer possible to imagine a company philosophy that does not allow room for this publication. We, that is to say the

12-strong editorial committee, representing a great variety of sectors from within the Kurtz Group, would like to take this „Jubilee“ as an opportunity to tell you something about our work. There is never a dull moment for those working on the editorial committee and we find that it is a worthy and satisfying goal, to get KURTZ NEWS into print twice a year. We meet on average two to three times per edition, and the goal of the first meeting is always to settle

KURTZ NEWS – understood worldwide

It was in 1995 that I translated my first KURTZ GESAGT into English, and since then I have collaborated on eight issues of KURTZ NEWS. Back in 1995 I was a member of an experimental monastic community in the former Cistercian abbey of Bronnbach on the river Tauber some 10 km south of Wertheim. It wasn't actually as if I was short of things to do in Bronnbach – I was kept more than busy with a round of services in the magnificent Romanesque church, cooking and gardening duties, concert promotion and the cultivation of the fine art of singing Gregorian chant. But

the occasional translation provided a few pennies for the common purse and kept me in touch with the wider world. After five happy years of „the busy peace of the cloister“ (two years in a Benedictine monastery in England) I didn't quite manage the big step vows for life, and „dropped the habit“ for good in 1998. I now live in Vienna, and in exchange for the monastic fraternity now enjoy family life together with a lovely wife and daughter. I undertake a range of tasks as a translator, but translating for KURTZ NEWS is always a particular pleasure. I may not be familiar

upon a theme. Once this has been defined, we proceed to the task of getting articles written; when doing this, we aim to get contributions from all sectors of the Kurtz Group. At the next meeting the articles are put up for discussion, and then the proofs are corrected and the final drafts translated. Finally the texts have to be complemented with photographs and the layout done. Then KURTZ NEWS is printed and distributed worldwide. I wouldn't deny that when deadlines are coming closer and there is still work to be done, we can all find it pretty stressful! But once we get a little feedback from our readers, the stress is quickly forgotten and we can sit back and feel justifiably proud in having provided our customers and colleagues with a series of articles worthy of holding their attention. We are confident that we will continue to do so in the future – indeed we are already thinking about the next issue! We from the Editorial Committee would like to thank all our readers very sincerely for their interest and attention.



with the exact practical realities of „tiltable gravity die casting“ but I know what the German for it is and that's enough for the job I have to do.

I am always happy to receive enquiries for translations from German (or French) into English and am contactable at pjgnicholson@hotmail.com.

Eight-Ball, Nine-Ball and 14/1e Continuous Pocket Billiards



In the minds of the uninitiated, billiards is most often thought of as a rather disreputable game played for money in smoky dives. This is an image which billiards as a sport has long been struggling to shake off.

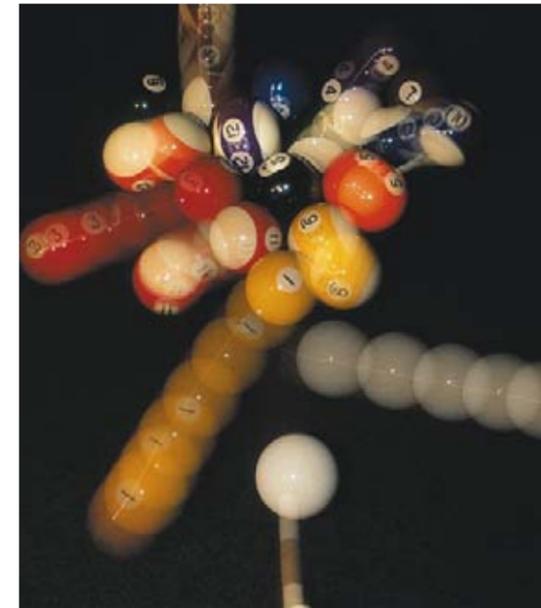
Yes, indeed, billiards is a sport! I will content myself with describing three different kinds that are commonly played competitively in Germany, and which require different skills from the players. Eight-Ball is probably the best-known variety, and is the one where the distinction has to be made between „full“ and „half“ balls. 15 balls have to be pocketed altogether, seven full balls, seven halves and the neutral eighth ball. It is only after the break that it is decided, on the basis of the first correctly pocketed ball, which player shall play with which balls. All the balls of a kind have to be pocketed before the eighth ball can be played. Before each stroke the respective player has to announce which ball he is aiming to play into which pocket. In this game, the balls do not have to be pocketed in any particular order.

My second variety is Nine-Ball, in which only balls 1 to 9 feature on the table. The balls have to be played in a specific order, which means that it is important to be able to control the speed of the white with great precision, and sometimes to manipulate the path it follows, in order to leave it in the best possible position to pocket the next ball. The winner is the player who pockets the ninth ball without breaking the rules.

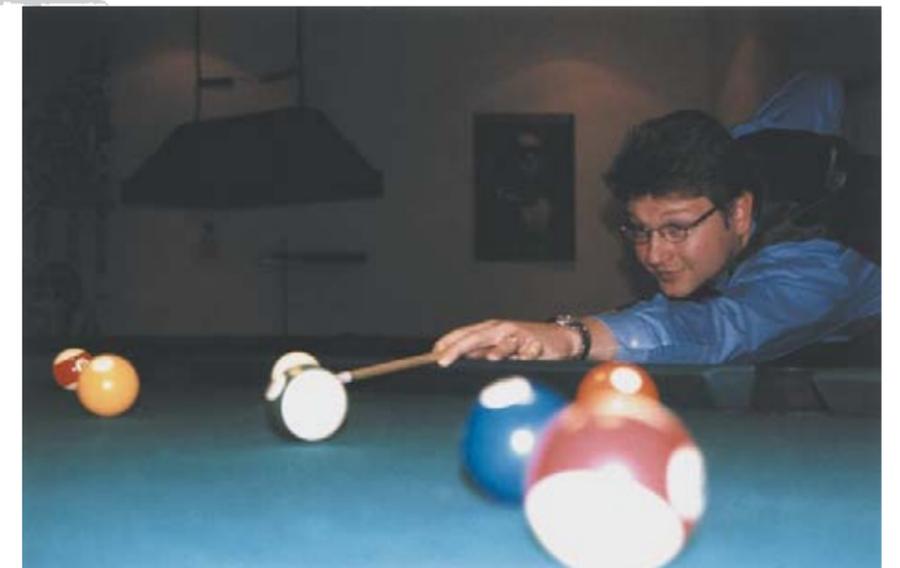
The path followed by the white can be manipulated by applying so-called „side“, also known as „screw“ (and in the USA „English“). This involves putting a spin on the white by playing the cue onto a spot on the ball which is somewhat off-centre. There are other ways of interfering with the path the

white ball follows, techniques in which the ball is played above or below its centre, for instance „stopping“, „running-through stroke“ and „back-spin“. The jewel in the crown among the billiard games is the so-called 14/1e, or Continuous Pocket Billiards, in which all 15 balls are played in a particular order and every ball has to be called, even at the break. Every correctly pocketed ball scores one point. When 14 out of the 15 balls have been pocketed, a rack of 14 balls is set up once again, that is to say a rack minus the head ball. The player then endeavours to pocket the ball that was the last remaining one on the table, and to cannon the white on to the rack balls in order to break them and play on. The winner is the one who first reaches a pre-agreed target score.

That was just to give you a brief taste of the rules of the games conventionally played competitively. Admittedly, they do sound rather complicated and tedious to begin with, but whoever has grasped the basics will find that it is a game that is a lot of fun to play – and that is the most important thing. When a number of KURTZ design and



sales staff met for their first training session („Eight-Ball“), it was indeed entirely for fun. Training took place in the club-rooms of the BSC Taubertal e.V. in Wertheim-Reicholzheim, under the direction of Stephan Gesuato. And there will certainly have to be a few more sessions before a tournament can be held. Until then, POT BLACK!!



K(URTZ)-Tour post-fair tour to K'2001

The international trade fair for the synthetics industry took place in Düsseldorf from 25.10. to 1.11. bringing together colleagues in the field from all countries of the world. Once the trade fair was over, KURTZ customers were offered the possibility of joining us on our traditional post-fair tour. The number of seats available was sadly

to express our sincere thanks to these companies for opening their doors to the group of KURTZ staff and customers. These companies included the most modern block and shape mould processing works, special plants, and even one fully automatic non-manned factory.

The tour was given a fitting conclusion with a „Final Dinner“ on November 6th in the Hotel Schwan in Wertheim. KURTZ Managing Director Walter Kurtz took advantage of this opportunity to say farewell to a colleague of many years standing, Herbert Jaksch, who now faces the challenge of his well-earned retirement.



limited to 50, and as can easily be imagined, these tickets were snapped up before organizers Rudi Knörzer and Herbert Jaksch could bat an eyelid! The KURTZ-Tour got off to a good start on November 1st with a day's relaxation after the stresses and strains of the trade fair – a museum visit was followed by a social event in the evening.

On the following days the participants, who came from 13 different countries, were given the opportunity to visit plants belonging to a wide variety of processing concerns – at which point we would like

to thank the companies we visited, Walter Kurtz also expressed his appreciation and gratitude to tour-organizers Herbert Jaksch and Rudi Knörzer, and to our Russian interpreters Anna Minaeva und Olga Savitskaja for all their hard work.

All participants were impressed by the quality of the organization and warmth of the hospitality, and thanked their hosts heartily – not only in words but also in music – also expressing the hope that they might be included on the guest list for the next K-Tour.



285 Mio DM turnover • 1000 employees

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