

User report | Best practice



Kolb Fertigungstechnik & Ersä

*Sophisticated Pacha peripherals
for top-quality soldering results.*

Process re-defined for further growth!

W. Kolb Fertigungstechnik GmbH has its company headquarters in Willich, just a few kilometres from Düsseldorf, Krefeld and Mönchengladbach. For more than 30 years now, the system partner to the electronics industry has been supplying its customers with high-quality and complex SMD, THT and mixed assemblies. In

2017, the 150-strong Kolb team generated turnover of 31 million euros – and the signs are that growth is going to continue in future too. At the beginning of 2018, the company added an Ersä inline selective soldering system of the type VERSAFLOW 4/55 to its machine park as one of the means of achieving this.

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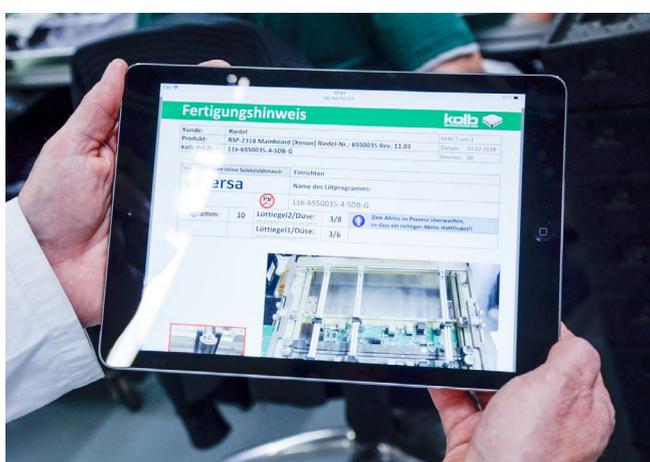
 **kurtz ersä**

It is not even four years since Kolb Fertigungstechnik moved to new premises within the Münchheide industrial estate – that was in October 2014, the turnover at the time was 21 million euros. As far as products are concerned, the focus is on industrial electronics. Complex controls for gates, communication units for radio stations, Formula 1, Olympic centres or the football World Cup in Russia are all produced here in Willich. The company banks on organic growth with existing customers, most of which are within a radius of 300 kilometres – although the share of international business is increasing for Kolb's customers and thus down the line for Kolb as well. Since the move, turnover has increased by another ten million, the floor space available in the electronics production area will soon be completely in use. But Kolb has taken precautions: there is still enough land left at the site directly next door at Konrad-Zuse-Straße 11 to be able to double the production area in no time at the drawing board if need be. Building work is under way, but a lot of water will have flowed under the bridge (or down the Rhine!) before production lines have been installed and put into operation. It's quite possible that this could coincide with the official 30th birthday of W. Kolb Fertigungstechnik GmbH in 2019. Udo Speck, who has been with Kolb for 20 years and is Managing Director for Purchasing/Production, still has plenty lots of plans for the current year that he would like to tackle with his team and put into practice. There's no time for thumb twiddling here.

“HIGH MIX, LOW VOLUME” PHILOSOPHY

Kolb often sees things differently than others in the industry. Alongside specific EMS know-how, it is this clear but critical view that has been a major factor in company success over the past few years. “As an electronics service provider you are never perfectly equipped – of course we have numerous products where our hardware fits directly. But there are others where our line does not seem to be compatible at all at first. Anyway, we have so many customers and orders that we can adapt capacities according-

Sophisticated set-up down to the last detail: VERSAFLOW 4/55 with peripherals in Kolb electronics manufacturing facility.



All the relevant information at their fingertips – Kolb employees call up details about a manufacturing order via iPad and report the order back into the ERP system following processing.

ly to provide optimum customer service at all times,” says Udo Speck, who in his function as Managing Director reduces the two areas of Purchasing and Production again and again to an increasingly digitally influenced denominator: high mix, low volume. It means that Kolb's electronics production retools each machine between five and ten times every day. Questions about capacity are met with a blank look at Kolb where there is a clear focus on flexibility, top quality and efficiency. One practical example: There are a total of 80 iPads in use throughout the Kolb manufacturing area for complete documentation of production. Operators call up precise information about the respective manufacturing order and report it back to the ERP system through these.

Kolb Manufacturing Director for Purchasing/Production, Udo Speck (right), talking to Ersa Area Sales Manager Stefan Wurster (centre) and Kolb process engineer Mike Prince (left).



Solder frame placement before selective soldering in the VERSAFLOW 4/55.

FROM BADGE TO AN INLINE SYSTEM

Until just recently, Kolb had two badge systems for selective soldering in addition to the lines for SMD production and inline THT manufacturing. However, Managing Director Speck had had a funny gut feeling for quite a while that both machines were not very efficient in terms of productivity, maintenance and repairs. By chance, he came into contact with student trainees from the University of Applied Sciences in Krefeld. Within the context of practical work experience, the two of them concentrated on one machine each and analysed the workflows in detail. Up to then, the start and end of an order were booked at the badge machines – without knowing how long placement and

soldering take. In addition to non-productive times during fluxing, pre-heating and soldering during assembly, there were problems with warping and insufficient pre-heating as well. The task facing these two student trainees was to change this “blind flight” into a contact flight. The two analyses were put together and merged into one synthesis. From this, a new “target” was defined and then taken directly as the navigation destination: one inline selective soldering system plus three upstream placement stations. Because the faster soldering process made quicker feeding necessary in terms of placement as well. Udo Speck’s gut feeling turned out to be right, so those responsible at Kolb got in touch with two selective soldering experts from Wertheim – one of these being Ersa GmbH from Wertheim am Main who was awarded the contract at the end of the exploratory talks. “The Kolb approach was distinctly different from the usual procedure. On the basis of numerous product details we were able to deliver initial information about the results as we submitted the quotation. We made an absolutely clear statement related to the quotation about the capacity and quality to be expected. During a visit to the Demo Center, the colleagues from Kolb were then able to verify these results with real products. The Ersa specifications were even exceeded somewhat – the performance predicted and then actually achieved on site were so convincing for the Kolb team that they ordered a VERSAFLOW 4/55,” recalls the Ersa Area Sales Manager responsible, Stefan Wurster. Worth a mention in relation to the Ersa selective soldering system are certainly the peripherals with the three placement stations, which were implemented in close cooperation with handling specialist Pacha and can be used for processing both solder frames and PCBs. Others achieve this too, but here we have automatic realisation via the placement line without manual intervention.

NO PARALLEL SET-UP OF THE NEW MACHINE

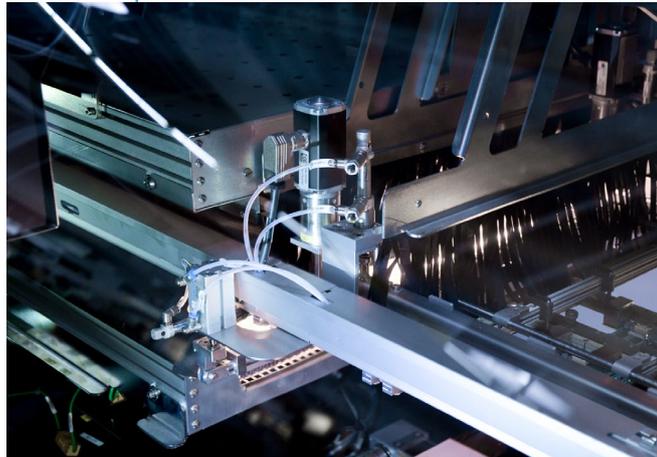
Another challenge came up due to a delay in the construction work on the new Kolb building on the neighbouring plot: after Kolb Purchasing had decided in fa-

four of an inline selective soldering line, the new machine had to replace the two old ones directly. The statement made during the project phase was that both badges would be discarded and replaced directly by the new selective system. There was no room to set the new machine up in parallel and introduce the process gradually, which would have been the normal procedure for every production manager. The big day finally arrived a couple of days before Christmas: more or less in the same breath, the two old badge systems were removed from the Kolb electronics manufacturing plant and the new inline selective soldering line was installed – time was of the essence, every movement had to be spot on.

Because commissioning and training for the new Ersa VERSAFLOW 4/55 were scheduled for week 01/2018, before production would then have to start without much further ado as delivery dates had to be met. It was no easy task to get the machine up and running over night, so to speak. But the teams from Kolb and Ersa managed it through a strong combined effort. Kolb's process engineer Mike Prince, who was present when the line was installed, confirms the good performance of the Ersa selective line, which leads to high quality and has numerous sophisticated features available. The good accessibility for service and the Graphical User Interface in particular are worth a mention here, this is extremely well set out and can be operated intuitively. "After a short training phase, the operators quickly got used to the processes, the solution is ideal." Managing Director Udo Speck is satisfied with the status achieved so far: "We have created a clean base with the new Ersa line. We are now in the optimisation phase which will probably last until the end of the year. The explicit target is for the VERSAFLOW 4/55 to complete in four hours what it took our two badge systems together a whole shift to do – and then our investment will pay for itself. We are confident that we will reach this target."

This year will be marked by investment in software for Kolb Fertigungstechnik. This will be used to move even further towards automated planning – from July 2018 onward with a megaboard that digitally maps all production working steps

Homogeneous pre-heating with the Ersa VERSAFLOW 4/55 for reproducible results.



Flexibility is the essence: the VERSAFLOW 4/55 in the Kolb electronics production facility keeps a constant eye on the soldering process – display (at the front on the photo) shows both solder pots.

on an enormous whiteboard and can be used for planning all capacities, or an adapter-less flying sample tester with four moving testing heads. After completion of the new building next door, Kolb will be investing in more machines so that all processes from SMD through wave to selective can be built up again in parallel. As soon as the new lines have been installed, Kolb Fertigungstechnik can more or less double its production area in no time – sufficient reserves for further bursts of growth in the next few years. But at the moment we are still in the business year 2018, during which plenty of tasks are still waiting for the Kolb team – with the Ersa team happy to provide support whenever it is needed in the form of powerful solutions and smart service. ■

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