

User report | Best practice



Good business partners: Zollner and Ers

Zollner Elektronik AG
headquarters in Zandt.

Identical standards worldwide!

Since it was founded as a 1-man operation in 1965 in Zandt/Bavaria, Zollner Elektronik AG has been undergoing organic growth – today more than 10,800 employees work for the EMS service provider who has now been working the market for 52 years and has been one of the Top 15 worldwide for many of those. Rather than relying on a product of its own, Zoll-

ner puts its faith in a comprehensive performance spectrum and works for global players and SMEs from the automotive, railway engineering, industrial electronics, aviation, medical and telecommunication industries. In 2016 Zollner's turnover reached the 1.25 billion euro mark, with further growth planned.

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The remarkable thing is that the growth is not just taking place abroad, Zollner is also growing on its home market in Germany. The mechatronics service provider has always had a good base in the Bavarian Forest near the border to the Czech Republic – the eight German Zollner sites in and around Zandt are all within a radius of 30 kilometres and employ well over 5,000 employees overall. To be able to achieve the planned growth, the Zollner team will have to grow as well. The problem is where to get new personnel in a region where lots of people already work for Zollner.

A strategic approach is needed – particularly in a region that has almost full employment. The main plant is continually expanding in order to deal with increasing customer requirements and further extend the already large production depth. One example is the building of a new production hall with 12,500 square metres of floor space for customers from the dynamic medical equipment branch. Production in the hall is carried out in accordance with strict FDA standards (FDA is for Food and Drug Administration, the US American authority responsible for monitoring food production and drug release) in order to meet the ever more demanding national and international requirements concerning cleanness and clean room production.

It goes without saying that the specialists who work in this area, which started production in part of the building at the end of the first quarter 2018, have to be able to fulfil these demanding requirements reliably through know-how and professional experience.

GREAT TRAINING COMMITMENT

Here, Zollner benefits from its great commitment as a training company, having regularly been able to secure some of the specialists required for the future from its pool of trainees and apprentices for many years – around 80 apprentices complete their training at

The Zollner process experts Christian Groitl (left) and Andreas Hunger (right) with Ersa Area Sales Manager Radek Lauer (centre).

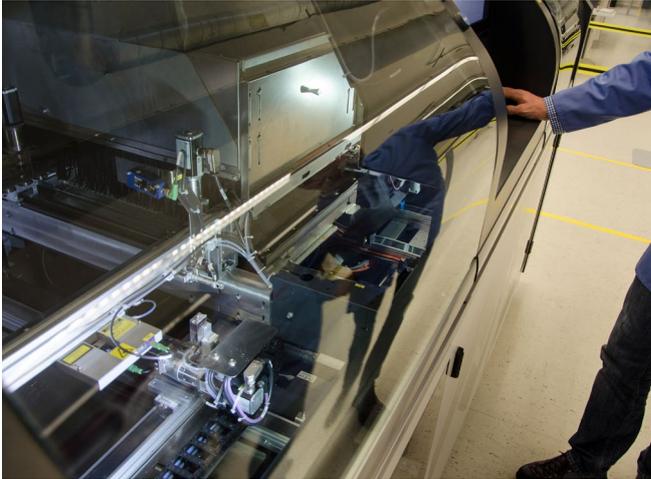


Part of the Zollner technical centre: Ersa stencil printer VERSAPRINT S1-3D with 100% post-print inspection.

Zollner every year and are generally given a regular employment contract after they have successfully completed their courses. Over the years, more than 1,600 young people have done an apprenticeship at the company, which in almost all cases then became the first step on their career ladder.

But simply training young people is not enough. Zollner knows this – and provides training for its other employees as well. A first Zollner training centre was set up at the main site in 2005, where specialists were trained in manual soldering. The idea behind this was to ensure all the soldering specialists had

The key to production: smooth processes; inputted here at the Zollner training centre.



Zollner technical centre in Altenmarkt – the Ersa selective soldering line Ersa VERSAFLOW 4/55 can be seen in the background.

undergone identical groundwork training. Now, training in this area covers AVLE module 1 (basics and THT training) and 2 (SMT basic training). AVLE is the abbreviation for "Ausbildungsverbund Löttechnik Elektronik", a vocational training association for soldering and electronic engineering, in which companies from electronics production, machine and device manufacturers as well as research & development have got together with the aim of improving quality, reliability and reproducibility of manual soldering results. The AVLE was founded by the companies RAFI, Hannusch, Zollner and Ersa, the training is open to all those interested. Wherever AVLE modules

are used, high-quality training documents, professionally equipped facilities and qualified trainers from the industry provide all participants with important background information combined with practical skills.

Despite the high degree of professionalism, the manual soldering training at Zollner is not a commercial enterprise, the target group is the company's own employees. The qualification as a soldering technology expert is designed to take four weeks – one week for the AVLE part, followed by three compact weeks with IPC-certified training, process instructions, SAP, how to deal with faults and other practical work.

"Three years ago we moved our training centre to Altenmarkt, where we now have more than 600 square metres of floor space available. In addition to the infrastructure for the manual soldering training courses, we had space for a technology centre there too. Step by step we have built up a machine park on the premises that maps the Zollner business and will carry the company into the future to a certain extent.

To deal with all contingencies and types of soldering, we have SMD placement lines located here, a reflow oven, coating line, laser panels, AOI system, a VERSAPRINT stencil printer with completely integrated 3D inspection, SPI and, added just a few months ago, a VERSAFLOW 4/55 – the latest generation of the Ersa high-end selective soldering line of which we have numerous models in use," says Christian Groitl, process expert at the training centre and a member of the company for 16 years. It was no coincidence that Ersa was chosen for selective soldering in the training centre – Zollner wants no less than the best technology and puts its faith in continuity in business relationships as well.

The successful cooperation between Zollner and Ersa started more than 30 years ago – during this period more than 60 soldering machines were delivered to Zollner for a wide range of different re-

quirements. "Like the real systems for the production line, the VERSAFLOW 4/55 at the Zollner training centre is equipped with all the important features: spray droplet measurement, automatic width adjustment of the spray heads, pots, a decent pre-heating section combined with radiation and convection – partly due to the aspect that the system has to be able to prove itself in day-to-day business on a real production line.

To avoid retrofitting, for instance, and for maximum flexibility, such as in the simulation of every aspect of complex products or the connection to MES. To make the processes visible, the training centre machine has Perspex panels," explains Ersa Sales Area Manager Radek Lauer, who has been responsible for business with Zollner for many years.

The standard doors have been delivered as well, just in case. Because it wouldn't be the first time that a line that had actually been ordered for the training centre was required more urgently for series production – in the case on hand, the machine had been set up in Germany for just a week when it was shipped at short notice to Costa Rica, where Zollner opened a new site at the beginning of 2015.

INDEPENDENT TESTS OF SERIES PRODUCTION

"Since the move to Altenmarkt, all kinds of training can be carried out on larger soldering machines and systems, from IPC, RFID, evaluation, special training or tests – with a major advantage that is worth hard cash: this all takes place independently of series production, which always had to be stopped for such tests or similar projects in the past – even if it was only for a very short time.

But a machine in series production that is not producing will always be classified as critical from the production management's point of view. Whether it's installing software updates, linking up for traceability, or dealing with difficult

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Infobox

Zollner

Founded
1965 as an electronics shop with installation operations, 1-man business

Turnover (2016)
1.25 billion euros

Branches
Industrial electronics, railing engineering, automotive, medical technology, aviation & defence, measuring technology, office electronics & data technology, other consumer goods and telecommunication

Employees
more than 10,800

Sites
Headquarters in Zandt and 17 other locations in Germany, Hungary, Romania, China, Tunisia, USA, Switzerland, Costa Rica and Hong Kong

Christian Groitl from the Zollner training centre (left) talking to Ersa Area Sales Manager Radek Lauer.



boards in the format 620 x 502 mm, for example – what interferes with series production is welcomed here and is put through its paces down to the last detail in a real test environment, prototypes and samples are produced, evaluated, with feedback used for series production.

Parallel to the manual soldering training events, internal SMT trainers have been trained at Zollner since 2014 according to the train-the-trainer principle. “We choose employees from different manufacturing areas who are particularly good at instructing others – we are talking about a group of eight or nine people. With these, we put together training documents that are used for familiarising new colleagues with their work,” Christian Groitl explains. A new employee in SMD production is thus taught the work and workflows in a structured way within three months – within which milestones and tests monitor whether the necessary know-how has been acquired. The objective is to enable new colleagues to work at Zollner level as quickly as possible with as little effort and expenditure as possible. The new colleagues have a mentor at the production line to help them at the production line at first. Then they work alone for one or two days to consolidate what they have learnt. After that, they move on to tasks on the next higher level.

ZOLLNER TRAINING BEYOND NATIONAL BORDERS

If Zollner customers have questions about the process the soldering machines can be reserved for a certain period as well – there is a technician responsible as a certified expert for each of the soldering technologies. To ensure operations in Costa Rica got off to a smooth start – Zollner invested 15 million euros in its new Central American location, where production started at the end of 2014, today the plant has more than 300 employees – the new colleagues came to Altenmarkt for training, to get to know the workflows on the soldering systems under the guidance of experience experts. The Ersa soldering systems selected for production in Costa Rica were built and run in Germany – also in close cooperation with the colleagues from Costa Rica. This meant the Costa Rican team was perfectly prepared for the start of operations.

Zollner training is also effective beyond national borders: at the moment Zollner is busy rolling out its training concept in Romania and Hungary as well, where the EMS service provider has been operating further sites successfully for many years. Training has already been carried out therefore some time – since 2007 in Hungary and since 2011 in Romania. Now, the focus is on carrying out this training to the same standard as in Germany. In addition to IPC certification, it is extremely important that the training is carried out in the local language by native speakers. This is the only way know-how transfer works on the worker level. If Zollner process experts are asked what direction the industry is heading in, the answer would be: in 2004, traceability was new ground for EMS pioneers, today it is the norm – in future the data generated from lines and processes will be connected via cloud-based databases. And that will probably be simulated and realised here at the Zollner training centre, and then colleagues will be given detailed training to be able to deal with the development. No matter whether they are from Europe, Africa, America or Asia! ■

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