

## Technical article



IE-Business Partners: Enics and Ers

*Enics Turgi facility is specialized on industrial and medical electronics, here high product mix prevails with small to medium volumes, and on comprehensive life cycle management and manufacturing of complex assemblies.*

# Steady Flow in the EMS Production

With its „world-class-manufacturing“ services, Enics is the ideal EMS partner for manufacturers of industrial electronics products, a partner, that offers to its customers integrated solutions in the areas of development, manufacturing and support. The Turgi facility is specialized in high mix production

in low to medium volumes, in comprehensive product lifecycle management and complex system assemblies. When the subject turns to soldering, Enics Switzerland relies - for many years already - on equipment supplied by the system supplier Ers



Ersa Sales Engineer Meinrad Eckert (2nd from the left) in conversation with the Enics Swiss team, a team that has one goal: to get the "best" out of their VERSAFLOW selective soldering system.

For Meinrad Eckert, Ersa's area sales manager responsible for Southern Germany and Switzerland for many years, today's destination is a company named Enics. Yet he does not head towards Zurich, where the headquarter of the Enics Group is located, but rather directs his car towards the Enics manufacturing facility in Turgi, lying picturesquely at the Limmat River in the canton of Aargau.

Ersa's expert on soldering systems is frequently visiting Enics in Switzerland, not only to maintain contact with the customer but also to participate in technical discussions with the soldering experts from Enics. For four years already, and also for today, Eckert's contact person is Roger Frei, Manager Product Engineering & Technology at Enics Switzerland. In this function, Roger Frei is the guardian of the technological processes at Enics, leading also a team of 7 engineers which, if called for, can be expanded by inviting additional experts.

In 2012, still new to the company, Roger Frei was charged with purchasing a new wave soldering system. A short list, Frei remarks, was quickly established. "I had previously formed my own impres-

sions when visiting exhibitions, talking to suppliers. We therefore focused on two, three systems which we wanted to have a closer look at. All this, naturally, while staying within the approved vendor list (AVL), which is used by the Enics Group to define with which supplier in which process we prefer to cooperate. After all, it is our aim to have installed standardized equipment in all our 8 facilities. This is important, since, on the one side, it allows us to offer to our customers quick and safe product transfers, and, on the other side, we can benefit by raising corporation wide internal synergy potentials", states Roger Frei from Enics.

In 2012, Ersa was already well introduced in both the Enics Group as well as in Enics Switzerland with its wave- and selective soldering systems. The first VERSAFLOW, a single pot unit, was commissioned at the Turgi facility in 2005 – at a time, during which the selective soldering process was slowly starting to establish itself in Switzerland. Enics in Turgi has, since early on in time, benefitted from the selective soldering process, and operators from the production line report that "the system has run well, it has proven itself to be very reliable even though it was always used to capacity".

Infobox	
<b>Enics Switzerland</b>	
<b>Established</b>	2004
<b>Location</b>	Turgi near Baden, also near to Zürich
<b>Employees</b>	180
<b>Production area</b>	6.700 m <sup>2</sup>
<b>Enics Group</b>	
<b>Established</b>	2004
<b>Location</b>	Headquarters in Zürich
<b>Employees</b>	3.200 worldwide
<b>Sales 2015</b>	505 Mio. Euro
<b>Production</b>	8 Facilities on 2 Continents

A strong partner in industrial and medical electronics – Enics Switzerland



Good business partners: Meinrad Eckert (left), for more than 20 years member of the Ersa sales department, and Roger Frei, Manager Product Engineering & Technology at Enics Switzerland.

## ENICS-FOCUS ON INDUSTRIAL ELECTRONICS

The electronic manufacturing industry in countries such as Switzerland and Germany is nowadays focusing more and more on flexibility, on production of small to medium batch sizes with high product variances and superior quality.

At Enics Switzerland, there is never a run-of-the-mill product mix moving through production, since new technology is on an equal footing with electronics that is in use already for 30 years or more. "This is because of

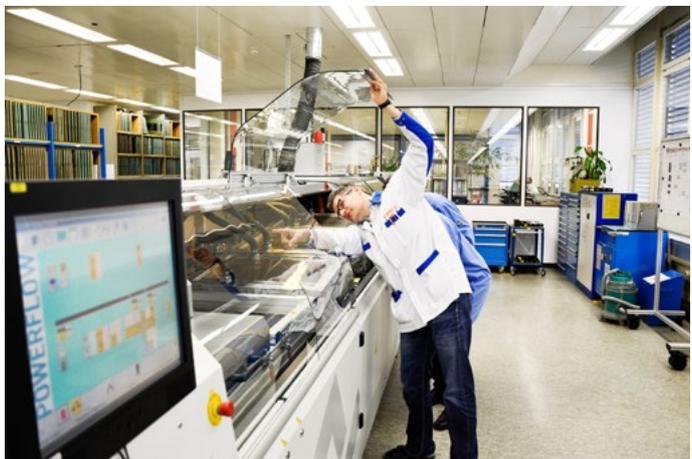
the customers we produce for - their products may be designed for an operational life of 20, 30 years, such as products for the power transmission or railway technology industries. Especially for the rapidly advancing electronic manufacturing industry, this is an extremely long period of time", says Roger Frei.

Moreover, the EMS market is a highly competitive environment, so that a supplier such as Enics has to offer to its customers a high degree of flexibility, superior quality and innovative services in order to achieve the mutually desired growth in the aspired long term partnerships. This represents a challenging environment for Enics. But Enics Switzerland is a member of an internationally well-positioned group of companies, the Enics Group, which presently has around 3 200 employees in 8 facilities on two continents and which has reached, during the financial year 2015, a turnover of more than 500 Mill. €.

Presently there are 180 employees working at Enics Switzerland. They consider themselves as being close to their customers and to be on the right course, as they have been able to garner over the last few years numerous new customers. Ersa, their business partner can only confirm this: "The Enics group is one of our top customers, having installed 14 soldering systems up to now in their facilities. We will ensure that we, as a business partner to the electronics industry, will be in the position to always satisfy Enics requirements and demands with our comprehensive product portfolio. This implies that we must, with the equipment and the processes we offer to our customers, always be on the leading edge of technology, setting new standards in electronic manufacturing", says Area Sales Manager Meinrad Eckert.

The cooperation of Enics with pro-active partners such as Ersa is one of the many factors leading to success,

A strong partner in industrial and medical electronics – Enics Switzerland



Close to the customer, near to the subject – near also to the inner workings of a POWERFLOW wave soldering system: Roger Frei, Manager Product Engineering & Technology at Enics Switzerland.

—○ factors, which all have one goal: to offer added value to its customers. That is also the aim of the yearly assessments Enics undertakes, during which all technologies and processes running within the corporation are put on trial. "Once a year the Enics Manufacturing Process Assessment, in short EMPA, takes place, during which a group of 6 people will meet in one of Enics facilities and together analyze their processes", reports Enics Roger Frei. Processes and technologies in the areas of SMT and THT, test and final assembly – for example, de-panelizing, cleaning and coating – are critically examined. But more general subjects such as ESD, traceability, training, 5S or safety are also being investigated.

During those intensive days of bilateral exchange, everything focuses on the question: Where are we? Where do we want to go? How can we collectively improve?

These assessment meetings ensure that in all Enics manufacturing facilities production know-how is on a comparative level, even though each facility will maintain its own specific orientation. Roger Frei: "Not everything can be transferred to his own facility, but one gets a fresh input and new ideas for one's own tasks. The final purpose of the meetings is to promote the continuous advancement of the Enics Group"

### ON THE ROAD TO LEAN PRODUCTION

"As a group, we are specifically pushing ahead with the subject of lean production. 'Lean' is for us a core subject, for which there is in every business unit a specialist assigned, who continuously works on implementing lean production", says Roger Frei. He points out that, over the last few years, they have been able to introduce a number of positive results in the production department in Turgi, for example as regards to one-piece flow (batch size

one). He states that they have and they will continue to substantially invest in the Enics facility in Turgi. In an international market, only the newest production tools ensure a flexible, cost-optimized and competitive production.

To these new and necessary tools belongs – and this is to be implemented in the near future - the linking of the different production units to a MES (Manufacturing Execution System) and the expansion of automation in the production area, such as the THT board assembly or the upstream automatic optical inspection. "Enics software specialists will contact the Ersa en-



gineers when the time has come for the MES integration, to jointly investigate the connectivity options – it is most likely more cost-effective if one can revert to already existing features, possibly modifying these, then to undertake a completely new development to implement the MES”, states Ersa’s Meinrad Eckert.

Since every customer has, on this subject, his own ideas, it is for an equipment supplier such as Ersa extremely important not to offer rigid, inflexible standard equipment. Rather, called for are systems which are, on account of their modular design, so flexible that they can be adapted to accommodate most demands of the customer or, if needed, be retrofitted quickly and easily. Ersa can resort here to a large and extensive pool of experience, which can be called upon - to the benefit of both, Ersa and the customer - when a specific demand is being raised by the customer. That goes also for the case of Enics.

### LIFE CYCLE MANAGEMENT – 30 YEARS AND MORE

A core competence of Enics surely is the networked handling of the complete product life cycle – from the development phase to production right up to support. For example, prototypes are produced on standard production systems, so that, right from the outset, unnecessary costs incurred during the ramp-up-to-production phase can be avoided – the system programs, for example, having already been established during prototyping. Or the area of replacing boards of older design: Enics Switzerland still has functional test equipment from the 70th in its facility.

“The partnership with our customers is laid out to be long term. And for customer products, which are designed to have a life expectancy counted in decades respectively a reproducibility of up to 30 years, such innovate services are important. This is why Enics has invested in 2015 into a paternoster for storing components over an extended period. This allows for a professional obsolescence management, enabling Enics

Switzerland to manufacture long ago discontinued boards. Due to the right storage and the still fully functional testing facility, the components are still available so that the boards can be soldered on their VERSAFLOW.

Roger Frei, engineer at Enics Switzerland, is very satisfied with the development which the facility in Turgi and the Enics Group as a whole have taken over the last years. Good progress has been made with the lean-production project, with “world class manufacturing” and with the development of new proactive services. Activities of today are totally different from what they were just 5 years ago. Production and the corresponding logistics have been optimized to conform to the “lean” specifications.

Batch-type production, to reduce the throughput time, has been replaced by flow production. From the encouragement received from its customers, be that customers with whom Enics has a partnership for many years already or from those recently acquired, Enics Turgi knows that they are on the right track and that they do deliver the quality demanded by their customer base. And even if the distribution in the production mix lead-free / tin-lead should shift from the current 50/50 over to more led-free: Enics Switzerland is ready for this and has with Ersa, for now and for the future, the optimal system partner on its side.

Together they will adapt the production to any future technological demands, and raise it to the next level. ■

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