

Customer report



Eiffage Energie Systèmes Électronique relies on support from system supplier Ersa

Location of Eiffage Energie Systèmes Electronique in Verquin, Northern France.

Great instead of mass!

Eiffage is a real giant in building construction, civil engineering and energy systems – around 65,000 employees of the French Group generated around 15 billion Euro in 2017. But not everything at Eiffage is dedicated exclusively to the construction industry – a fine unit has been dedicated

intensively to electronics production since 1984. On the market for 34 years, Eiffage Energie Systèmes Electronique has been relying on soldering systems from system supplier Ersa for almost as long – recently also for stencil printing.

published in
productronic 12/2018
in Germany

 **kurtz ersa**



Two Ersa waves in Eiffage electronics production.

Eiffage is one of the European leader in building construction, civil engineering and concessions, active in construction, real estate, development, civil engineering, metal, roads, energy systems and concessions. Based on strong values, strong regional roots and extensive know-how, the Eiffage team once again made a difference in 2017: more than 100,000 projects in the four business segments of construction, infrastructure, energy and concessions have been realized in France and 50 other countries in which the Group is active – the aim is always to make an active contribution to the world of tomorrow today.

This strategic orientation also applies to Eiffage Energie Systèmes Electronique, part of Energy System division with a total of 25,000 employees. With 100 employees and a production area of 5,600 m², the electronic unit, located in Verquin in the north of France, will end 2018 with a turnover around 18 million euros. Mass is also not the business model of Eiffage Energie Systèmes Electronique, but rather the company's self-confident commitment to uncompromising quality production including comprehensive testing expertise. Eiffage's electronics production started in 1984, with the first customer coming from the automation sector. Today, the company manufactures state-of-the-art electronic devices, including wireless boards and LEDs, and with manageable manpower has become a responsive, efficient partner for customers.

Of course, Eiffage Energie Systèmes Electronique benefits from being part of a large group – for example with regard to investments. As a result, Eiffage Energie Systèmes Electronique has the necessary financial strength to maintain a large stock and thus ensure seamless supply to the customer.

MANUFACTURING AND DEVELOPMENT OF COMPLEX BOARDS

Eiffage Energie Systèmes Electronique is broadly based, and customers also come from sectors such as lighting technology, energy, industry, medical technology, telecommunications, transport, wireless ... If required, Eiffage Energie Systèmes Electronique not only produces but also develops specially designed boards – for example, a subsidiary of Eiffage requested a solution for a smart lighting products for buildings. A significant part of Eiffage Energie Systèmes Electronique production goes to Europe, especially Belgium – from the Verquin site, it is only a few kilometers to the Belgian border. However, this is not mandatory, customers are also supplied all over Europe and more, the produced and fully operational modules are shipped to any place in the world.

Eiffage Energie Systèmes Electronique

in numbers:

- Founded in 1984
- 100 employees
- Electronics industries:
 - Lighting technology,
 - energy, industry,
 - medical technology,
 - telecommunications,
 - transport and wireless
- www.electronique.eiffageenergie.com



Ersa VERSAPRINT 2

highlights:

the only machine in the market with integrated 100% 2D or 3D inspection

ultra-fast machine and program set-up

print area up to 680 x 500 mm

maximum cost efficiency due to features on demand

Production Manager Emmanuel Touzot has been with the company since 1992, and the cooperation with system supplier Ersa began just two years later – a long-term business relationship based on partnership that has now lasted for over 25 years. The first to be purchased were one Ersa wave soldering machines of type EWS 500 and some years later a EWS 500 lead-free one. Two Ersa wave soldering machines EWS 330 were ordered in 1999 and 2002 – however, these did not go to Northern France, but to North Africa. There, the French are cooperating with a Moroccan company. Eiffage Energie Systèmes Electronique transfers machines, methods and know-how to Casablanca so that EMS production can be operated just as efficiently. In this way, Eiffage Energie Systèmes Electronique can manufacture complex boards for one and the same customer in France and simultaneously produce comparatively simple PCBs in North Africa under cost-sensitive conditions.

Selective soldering was introduced in 2008 via a VERSAFLOW with a pot and a nozzle – the pot is due for replacement in the foreseeable future, as the machine continues to produce flawlessly and in the required quality. Six years later, the second selective soldering system in the form of a VERSAFLOW 3/45 followed. Both selective systems are in continuous use at Eiffage Energie Systèmes Electronique and are an indispensable part of the French production.

Eiffage employees setting up the VERSAPRINT 2 stencil printer.



View into the production of Eiffage Energie Systèmes Electronique.



STENCIL PRINTING WITH INTEGRATED SPI

The size of picked and placed components becoming smaller and smaller, the Eiffage managers decided it was time to replace at least one of their printing systems. A select team went on tour to view all possible systems at Productronica 2017. "Our need was clearly for a printer of high quality and precision, as we produce lot of different boards in a very different formats with all kind of component sizes. We also needed a glue dispenser for large, heavy components on both sides. One of the potential suppliers was directly eliminated because gluing was not intended in the stencil printer," says Production Manager Emmanuel Touzot. Above all, Eiffage Energie Systèmes Electronique was looking for a faster system mostly for gluing – two suppliers remained in the game, one of them Ersa. A few years ago, the electronics experts at Eiffage Energie Systèmes Electronique were given an impression of the possibilities of Ersa stencil printing during a visit to the Wertheim Demo Center. They were impressed, but still hesitant at that time.

"When the printer topic became really acute last year, we went to Ersa because we could confirm from our own experience that Ersa builds very good soldering systems – so we were once again in the Demo Center in January to put the current Ersa stencil printer VERSAPRINT 2 to the test according to every trick in the book. We wanted to test the speed of the glue dispenser under real conditions and were also extremely interested in the integrated SPI," says Emmanuel Touzot.



Eiffage soldering experts in dialogue.

According to the Production Manager, 70 percent of PCB defects are due to the printer. In addition to the integrated 3D solder paste inspection (SPI for short), the French team was impressed by the simple handling and programming of the VERSAPRINT 2 – expressed in terms of quality, SPI and price.

Initially, the purchase of only one system was planned, although two SMT lines are in Eiffage Energie Systèmes Electronique production. Visitors to the Eiffage production facility, however, were all in favor of production on a fully equipped line. Listening to their customer comments, the Eiffage Energie Systèmes Electronique soldering experts added more and doubled the number to two systems. With the direct line to the Eiffage top management, the second system was also approved within a week, so that at the end two Ersa VERSAPRINT 2 stencil printers were ordered. The decision was made for the highest expansion stage VERSAPRINT 2 Ultra3, because it was connected to the SPI and further features can be retrofitted “on demand”.

The software didn’t run quite smoothly in the beginning, some bugs had to be fixed. In addition, the stencil cleaning had to be adapted to the high requirements, which was then immediately implemented in series production. “Despite these problems, Ersa never gave up and was on site with a service team to find the causes, fix them and get the system up and running.

Ersa was always on our side, supported us 100 percent and convinced us completely, especially in terms of service. This gave us the good feeling that we had the right partner at our side to find the optimal solution. We succeeded in doing this together and we now have two high-performance systems that do their job reliably and deliver high-quality results including traceability,” recapitulates Emmanuel Touzot.

The next project is already underway – just as much: Railway traffic signals management system. In railway technology, extremely resilient components are required that must function trouble-free over a period of about 25 years, even more. Reproducible quality is required here, often with soldering containing lead.

Emmanuel Touzot, Production Manager, with Eiffage since 1992.



Continuous operation at Eiffage: two Ersa selective soldering machines, here the VERSAFLOW 3/45.



But Emmanuel Touzot's team sees a 90% chance that a lead-free solution will be developed together with the Ersa engineers. The investment, XL selective wave, is scheduled for next year, a further test in the Ersa Demo Center in January 2019 is already planned – with a board that only remotely resembles a printed circuit board. That would of course only be a job that would have to be done on the new system. As mentioned before, mass production is not Eiffage Energie Systèmes Electronique's thing, so the strategy for this project is: highest flexibility, highest quality – or in other words: high mix, low volume. Together, Eiffage Energie Systèmes Electronique and Ersa will work out a solution that not only shows the way to the station – on y va! ■

Electronics production with selective soldering system for highest quality.



Ersa GmbH

Leonhard-Karl-Str. 24
97877 Wertheim
Phone: +49 9342 800-0
info@ersa.de
www.ersa.com

Ersa North America
info-kna@kurtzersa.com

Ersa Shanghai
info-esh@kurtzersa.com

Ersa Asia Pacific
info-esh@kurtzersa.com

Kurtz Ersa Mexico
info-kmx@kurtzersa.com