

Application report | Best practice



Jabil Kwidzyn and Erska

Marek Czubak, Industrial Engineering Manager at Jabil, in front of the first Erska wave soldering system for electronics manufacturing at the plant in Kwidzyn, Poland.

Top EMS Product Quality from Poland

With more than 100 locations in 29 countries and in excess of 180,000 employees Jabil is one of the largest electronic manufacturing services (EMS) providers in the world serving customer segments as diverse as automotive, aerospace, medical technology, telecommunications, transport and the energy sector. With a strategic orientation towards design, production

and product management and with global intelligent supply chain capabilities Jabil partners with customers from ideation to industrialisation guaranteeing faster and more effective new product introduction for its customers. For the past three years, Jabil's Polish site at Kwidzyn has been utilising soldering technology from system supplier Erska.

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Marek Czubak and Jan Zwierchowski at the POWERFLOW N2 at the Jabil production facility.

Jabil has been in business for more than 50 years and is one of the largest electronic manufacturing service (EMS) providers in the world. Founded in Detroit, Michigan in 1966 the overall turnover for the company was \$19.06 billion in fiscal year 2017. Jabil has been represented in Poland for 27 years, with the Kwidzyn plant opened in 1991 and growing to 705,000 square feet of manufacturing space.

Even if the name Jabil is not familiar to many outside the electronics industry, contact with products from the global electronics services manufacturer can hardly be avoided – since components and devices produced by Jabil Kwidzyn can be found in many Polish and European households. “Initially we produced TV sets for leading brands in Europe for many years. In recent times, the focus in our production has shifted more towards electricity and gas meters as well as many other electronics components,” says Marek Browalski, Assistant Operations Manager. “Renowned global brands come to us with their products. We produce these on behalf and under the logo of the respective brand, but the entire production process takes place here at Jabil Kwidzyn. And we dispatch the finished product directly to the end user.” In two production halls, Jabil Kwidzyn manufactures avalanche rucksacks, 360° cameras, industrial cameras, magnetic card readers as well as parts for audio equipment and light control systems among other things.

TOP QUALITY:
WAVE SOLDERING UNDER NITROGEN

Not that long ago, the contract list included around a dozen customers for whom Jabil used different wave and selective soldering techniques for the manual assembly process. Because the large variety of products involved, increasing requirements in terms of quality of the soldering points and the necessity of reducing the soiling of printed circuit boards in the wave soldering process, Jabil developers contacted several wave soldering system manufacturers to meet the increased production requirements. “Within the context of looking for suitable technologies and machine suppliers we decided that the best solution is a tunnel machine where soldering takes place under nitrogen.

Jabil Kwidzyn

facts and figures:

- Established in 1991
- Employees 3,500
- Manufacturing Space: 700,000 square feet
- Operating hours 7/24
- www.jabil.com

The Jabil plant in Kwidzyn, Poland.



Optimum setup en détail for the Ersa soldering systems at the Jabil production facility.



With this technology, you get 100% fillings for many copper layers and significantly reduce the visible soiling by the wave soldering process in the form of a white layer of the soldering mask," explains Marek Czubak, Industrial Engineering Leader at Jabil Kwidzyn. Following detailed analysis of the market and machines available – as well as a look at the previous outstanding cooperation with Ersa GmbH – the system supplier for electronics manufacturing from Wertheim am Main was requested to compare the latest Ersa soldering technologies and the Jabil requirements and bring them in line.

Completely satisfied with the new Ersa soldering systems – the two Jabil soldering experts Marek Czubak and Jan Zwierchowski at the VERSAFLOW 3/45.



CONVINCING TEST AT THE DEMO CENTER

Paweł Szumny, Managing Director at PB Technik, long-standing representative for Ersa in Poland suggested a joint meeting at the Ersa headquarters in Wertheim to be able to test the latest generation of the wave soldering machine POWERFLOW N2 intensively at the demonstration and application center. Together with Jabil process engineer Jan Zwierchowski, Paweł Szumny travelled to Wertheim am Main for a machine check on one of the most recent Jabil products, for which the customer required an improvement of soldering quality and reduced soiling in the wave soldering process. "We had two days for testing, but it became clear within just two hours on day one that the POWERFLOW has what it takes – we produced the first assemblies where the improved soldering quality was directly visible in such a difficult production environment," says Jan Zwierchowski, who was completely convinced by the tests in the demo center – from the professional setup of the test machine through import of the profile required by the Ersa soldering experts to the various tests with different machine settings. The Jabil engineer continues: "As the Senior Engineer it was clear to me after only a few hours that this was the machine we were looking for, the machine which would enable us to significantly improve soldering quality.



Ersa VERSAFLOW 3/45 at the Jabil production facility in Kwidzyn

At the end of the visit to Ersa and following the final tests, we had a configuration available with which we could check the flux, profile and the individual assembly, so that we are able to produce two types at the same time and have access to all the parameters which directly influence the quality of the products.”

FIVE Ersa POWERFLOW N2 IN USE

Jabil Kwidzyn purchased the first wave soldering machine with the latest technology at the end of 2015. This first machine was installed and commissioned professionally by PB-Technik Service with full support by Ersa Service. There are currently five such machines in use for three customers at the Jabil Kwidzyn plant. Thanks to the new wave soldering technology of the POWERFLOW N2 under nitrogen,

the Jabil team achieves outstanding quality even with numerous copper layers and can minimise soiling considerably during the wave soldering process.

In addition, the machine parameters including flux dosing can be controlled online. Dual production has been integrated on one of the five lines, so that two different products can be produced in parallel – the options the POWERFLOW N2 offers the user are being fully exploited by Jabil Kwidzyn here. Based on the excellent interaction of all features, the quality of the products could be optimised quickly on all five systems. In addition to the wave soldering machines, Jabil Kwidzyn also purchased 14 Ersa selective soldering systems in different configurations “on top”, which are producing reliably for Jabil customers. ■

Jabil electronics manufacturing in Kwidzyn.



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