

In Pursuit of Productivity

by Antonio Vendramini



A visit to HT Labor+Hospitaltechnik AG, Heideck, Germany, gave us the opportunity to observe the operations of a Finn-Power (now Prima Power) automated fabrication and bending line for continuous processing of steel and stainless steel sheets, which are used to make modular walls, ceilings and doors for hospitals and bio-medical research laboratories.

HT Labor+Hospitaltechnik AG was established over 50 years ago, and has evolved from a simple subcontractor that manufactured stainless steel and galvanized sheet doors for small hospitals to a company with 200 employees that operates worldwide and builds complete systems for critical areas of hospitals, such as operating room blocks and intensive care rooms, and for research laboratories where sterile areas are required.

“Today, our company operates throughout the world,” explains Joseph Flierl, ceo and principal shareholder of the company. “For example, in Germany we’ve installed operating rooms at the Johannes-Wesling Clinic in Minden, the Schnarrenberg Clinic in Tübingen, and at the University of Frankfurt.

We have laboratory systems at Philipps University in Marburg. Around the world, our installations include walls and modular structures in Italy, Switzerland, Austria, Mexico, Kuwait, Russia, Bulgaria, Egypt, Thailand, Spain, Estonia, and many other countries. We can say that we’ve now become one of the most important producers in the world of modular walls and metallic structures for hospitals and research laboratories.”

The Need for Flexibility

Flierl explains that his company receives the designs for the buildings when they are still in the planning phase. “Within the layouts received, we subdivide the areas into operating theaters, with the preparation rooms, scrub facilities, and rooms for other necessary services,” Flierl continues. “About 40% of our personnel deal with the technical development of our designs. Also consider that, while we have modular

configurations for these structures, quite often they must be adapted to the specific functions required by each customer and to the regulations in effect in the various countries for which they are made.”

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Since 2001, these conditions have led HT Labor+Hospitaltechnik to search for an automated complete sheet metal fabrication system that was precise and flexible. “Our goal was to find a system that would make it possible to work on both small series and individual details in an extremely efficient manner. Analysis and research conducted early this decade did not produce the desired results. None of the suppliers we contacted had the system we sought, and above all, there were major gaps in the management software that did not guarantee the degree of automation required and the necessary flexibility. However, in 2007, we returned to the market in search of the *impossible dream*, and to make it come true, we brought on Gerd Salomon, an expert in managing sheet metal processing techniques.”

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Selecting a Supplier

According to Salomon, the idea of what HT Labor+Hospitaltechnik wanted was quite clear: "We needed a single supplier that could guarantee automatic operation of a line that essentially consisted of a punching-cutting unit, and a bending unit for sheets that are generally no more than 2 millimeters thick, made of stainless steel, alternating with a buffer device that can be used to work even individual details, all supplied by a central double storage area, with 440 stations." HT Labor+Hospitaltechnik ultimately chose the Prima Power (formerly Finn-Power) PSBB line consisting of the Shear Genius (SG8) punch/shear cell, EBe6 Express Bender and the Night Train material management system.



Prima Power PSBB

HT Labor+Hospitaltechnik built a new manufacturing facility for the new production line. In the middle of this facility is the Prima Power Night Train material management system with 425 stations. It accommodates sheets up to 1,565 x 4,300 mm in size. The Night Train is remotely controlled by management software. Along one side of the building is the Prima Power automatic processing line. On the other side, the previously existing semi-automatic machines of various manufacturers are still connected and are used to process details. "During this transition period," explains Salomon, "we preferred to keep some older equipment so that we'll always be able to meet specific surplus requests."



The work process begins by removing the sheets from the storage cassette in the materials storage area and transferring them by means of a loading unit that sends them to the SG8 Shear Genius system for punching and angular shearing of the sheets. When the sheets exit this machine, which has three different lateral collection points for scrap sorting (handled by the program), the sheets move to an intermediate station, which is used to rotate the components 180° if necessary. These parts can be properly placed for secondary operations, such as deburring and bending, or as a buffer where the components can be collected and realigned for purposes of non-line processing. And in our opinion, this part is what's of most interest from the purely technological perspective, as the entire functionality of the line depends

on its operation. The last element of the line is the servo electric EBe6 Express Bender, used for parameterized and controlled bending of the sheet details worked.

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According to Salomon, a prerequisite was software that could be flexibly parameterized for the EB6 panel bender station. "With regard to the choice of supplier," says Salomon, "I should note that we chose the company that was best able to show us similar systems already in operation and was best able to meet our technical requirements, assuring us all the necessary assistance for complete operation of the system. The order was made in the summer of 2008 and the system was installed in that December. At present, we can say that we're still fine tuning not only the line, but also our production procedures, which were literally turned upside down with the arrival of the new system."

How have the employees reacted to the innovation? "Since they were involved from the start, I can say they even helped in choosing the system," emphasizes Flierl. "Many of our technicians were invited to get a close-up look at the operations of similar machines at the Prima Power showroom in Italy and in the facilities of a number of customers who were working with identical systems. I should also note that when we reorganized production, no one was fired, and in fact many of them improved their position in the company. "Introduction of the Prima Power sheet metal processing line essentially allowed us to triple our production."

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