CUSTOMER PROFILE

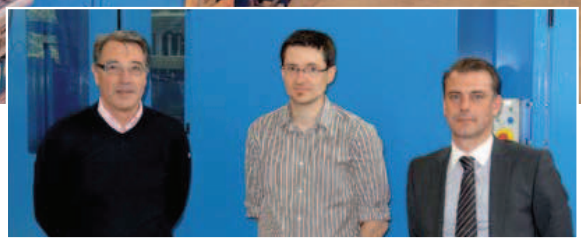
Flexibility & Modularity with Prima Power at Giennoise de Chaudronnerie

The development of a precision sheet metal facility requires investments in modular and scalable hardware for automated handling machines and systems for storage. That's the vision of Pierre Laurent who founded and has made Giennoise de Chaudronnerie a partner with many major customers in various sectors, including construction finishing work, capital goods, and the automotive industry.

Laurent created his company in 1977 to specialize in hot-rolled fabrication, mainly for mechanically-welded structures and steel work. In 1990, his company entered the area of sheet metal fabrication – punching and bending – in order to support his customers who were transitioning from frames to structural work.

In 1996, his first investment in the new area was the TP-300 turret punch press from Finn-Power (now Prima Power) which serviced the company until recently. "The amount of this acquisition was greater than the entire turnover of the company," Laurent remembers.

Overview of the Prima Power machines and the Night Train Material Management System in the background.



From left to right: Pierre Laurent and Sylvain Huteau of Giennoise de Chaudronnerie and Prima Power's Christophe Berquet.

The investment in equipment continued with the purchase of a Shear Genius punch/shear combination cell, the first sold in France. This was followed by a second punch/shear combination cell to keep up with growing demand. "We soon realized that we had to move to new facilities that were more conducive to connecting the two machines to a Prima Power's Night Train Material Management System (MMS), our central automated material handling system," explains Laurent.

Simplifying material flow and increasing productivity were not the only issues taken into account. Other company goals, including improving operator safety, were also pursued. Pierre Laurent remembers: "Before the warehouse storage was created, a stack of laminates fell from a forklift near an operator, and the result could have been serious. This strengthened my resolve to fix this."

Laurent recognizes that he had the great benefit of starting with a clean slate, and could arrange the factory in an optimal manner. The move to the company's current location took place three years later. At the same time, Pierre Laurent decided to replace the first SG6 with a Shear Brilliance, a larger punch/shear combination machine featuring linear drives. In 2008, the Night Train MMS was extended at the same time as the building.

"The primary reason that we chose the Prima Power E6 turret punch press was that the technology was more advanced and user friendly than others machines on the market."

In 2012, two additional acquisitions were made: The Prima Power LPe8f, a punch/laser combination machine featuring servo-electric punching and fiber laser cutting, and the SGe6, a servo-electric punch/shear combination machine for 1500 x 3000 mm sheet metal that replaced the second SG6. Both the LPe8f and the SGe6 are equipped with automated sorting and stacking features.

The Backbone of the Factory

The factory is divided by the Night Train MMS along its length with a separation of the punching, laser cutting, and bending activities. The Night Train manages both the sheet metal and work in process (WIP). This is the largest Night Train installed in the French market, measuring a length of 80 meters with 426 cassettes. This provides greater flexibility for storage and handling many different types and thicknesses of sheet metal, as well as WIP.

When the operators select the types of sheet metal they need for a certain job, the Night Train automatically delivers the correct material to the machine. Each machine is considered as a cell, and the Night Train is the slave to different cells.

"We don't just deliver storage," explains Christophe Berquet, sales director for Prima Power France. "The software portion of the Night Train is also important, with integrated stock management and the machine working queue."

When the raw material arrives, the operators only need to record the material and the thickness, and the Night Train automatically stores it in a free location for later retrieval without additional human intervention. Sheet metal deliveries, which are denser and therefore heavier, are stored at the bottom of the Night Train, while the lighter WIP is stored higher.

When the operators select the types of sheet metal they need for a certain job, the Night Train automatically delivers the correct material to the machine. Each machine is considered as a cell, and the Night Train is the slave to different cells. "We've progressed from the time when we had to move sheet pallets which took 10 to 30 minutes for each move," reflects Lauren.

"This replaces operations that provide no added value, such as storing items, surplus production, and inefficient rework operations," says Berquet. "At the same time, it reduces waste, factory floor space, and material storage. It also simplifies organizational tasks."

Automation's Effect on Human Resources

From his experience, Laurent recognizes that: "Automation provokes two types of fears for operators: the fear that they could lose their jobs, and the anxiety of knowing how to master a complex tool. In first case, we need to understand that automation does not take jobs from employees, rather it relieves the staff of difficult jobs. As a result, it is necessary, especially with a technological leap, to keep the staff informed of the upstream changes to show them that these new things increase the value of the work."

The Laser/Punch Combination

"I decided to use the punch/shear machines for thicknesses up to 3 mm," says Laurent. "Today, suppliers offer galvanized sheet metal up to 5 mm which we use for manufacturing. A traditional C02 laser can cut this type of sheet metal, with higher returns than those obtained through the use of a punching machine. Considering that in 2012, fiber technology first entered the market, I chose to invest in a machine which retains the flexibility of punching for standard holes, and offers the complete capability of cutting contours on parts that are more complex. The punch / laser combination machine LPe8f we bought in 2012 perfectly meets our expectations."

The LPe8f combination machine makes nesting easier, and allows a savings of 10% of material over traditional punching machines. These savings are significant when considering raw materials costs to overall margins.

"As our customers' partner, we are clearly able to provide technical advice from the time that they design their products," adds Laurent. "In addition, very short manufacturing times permit a same-day delivery for an order placed in the morning."

According to Laurent, a certain number of customers believe that the constraints weighing on manufacturing in France are difficult, and that it would make more sense to manufacture abroad. Nevertheless, thanks to its constant investment in machines and automation, Giennoise de Chaudronnerie was able to return production to France which had left the country in recent years. "Our sales forecasts demonstrate that in many cases we are capable of offering better quality at equivalent prices with more flexibility and faster delivery times," concludes Laurent.

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