



The Endless Summer

Auto production and the production and assembly of components for wooden prefabricated houses have a great deal in common. WeberHaus in Rheinau-Linx was therefore convinced by the idea of being able to learn from experiences in another industry, and succeeded in transforming itself into a lean and transparent company.

By: Reiner Schloz, Photos by: Mathias Hangst

Employees pay particular attention when the triumvirate in charge paces unannounced up and down the production lines at WeberHaus. Olaf Bädeker, who is responsible for overseeing the Continuous Improvement Process (CIP), Gerd Maßhardt, head of production, and Plant Manager Michael Sax cast their six trained eyes over the production lines to check whether the principles of lean production are being consistently complied with, since what the company has worked hard to introduce over the past year-and-a-half is not to fall by the way-side, but is rather to be improved further.

The three men keep a particular eye on seven areas: the equipment cupboards, general tidiness and cleanliness, the stock on the shelves, possible sources of defects, whether the team boards are up to date, and the status of the “to-do” lists, referred to as a “KAIZEN newspaper” in technical jargon. Clear black-and-white symbols are used to assess the general state of things. These range from sunshine (“excellent”) to clouds (“unsatisfactory”). Such clear use of symbols ultimately forms part of a tried-and-tested means of communication in lean companies, and communication is one of the things that has radically changed at WeberHaus. “To begin with,” says Olaf Bädeker, “the employees winced when we walked

through. Since then, they have realized that they, too, have a part to play. These tours of the production lines ultimately result, time and time again, in new tasks for the three of us as well.”

Dr. Ralph Mühleck can be pleased with the general weather situation. The head of the management team of the family company based in Rheinau-Linx near Baden-Baden, Germany, defines his visual impressions of the profitable change in atmosphere as follows: “Nowadays, we no longer wish to see any finished walls standing around in production, as this would be an indicator of overproduction.”

Previously, people viewed things differently. If finished walls with installed windows were standing tightly packed together in the production hall, it was a sign that “things were happening here.” However, at some point, the managing director began to have doubts about whether “everything was running smoothly.” He lacked the critical view from outside the production department that had simply continued to grow since the founding of the company in 1960. The master carpenter Hans Weber had once started out with three houses built in wood-frame construction. Now, forty-six years ▶



Higher standard of production: Quality store and clear criteria result in transparent production processes

and over 27,000 houses later, WeberHaus GmbH & Co. KG, with its new ÖvoNatur external wall, is regarded as a leader in the building of low-energy houses, and with its WeberHaus Twin and WeberHaus Wohnwelten product ranges, offers high-quality prefabricated houses made in Germany, as well as exclusive and unique construction.

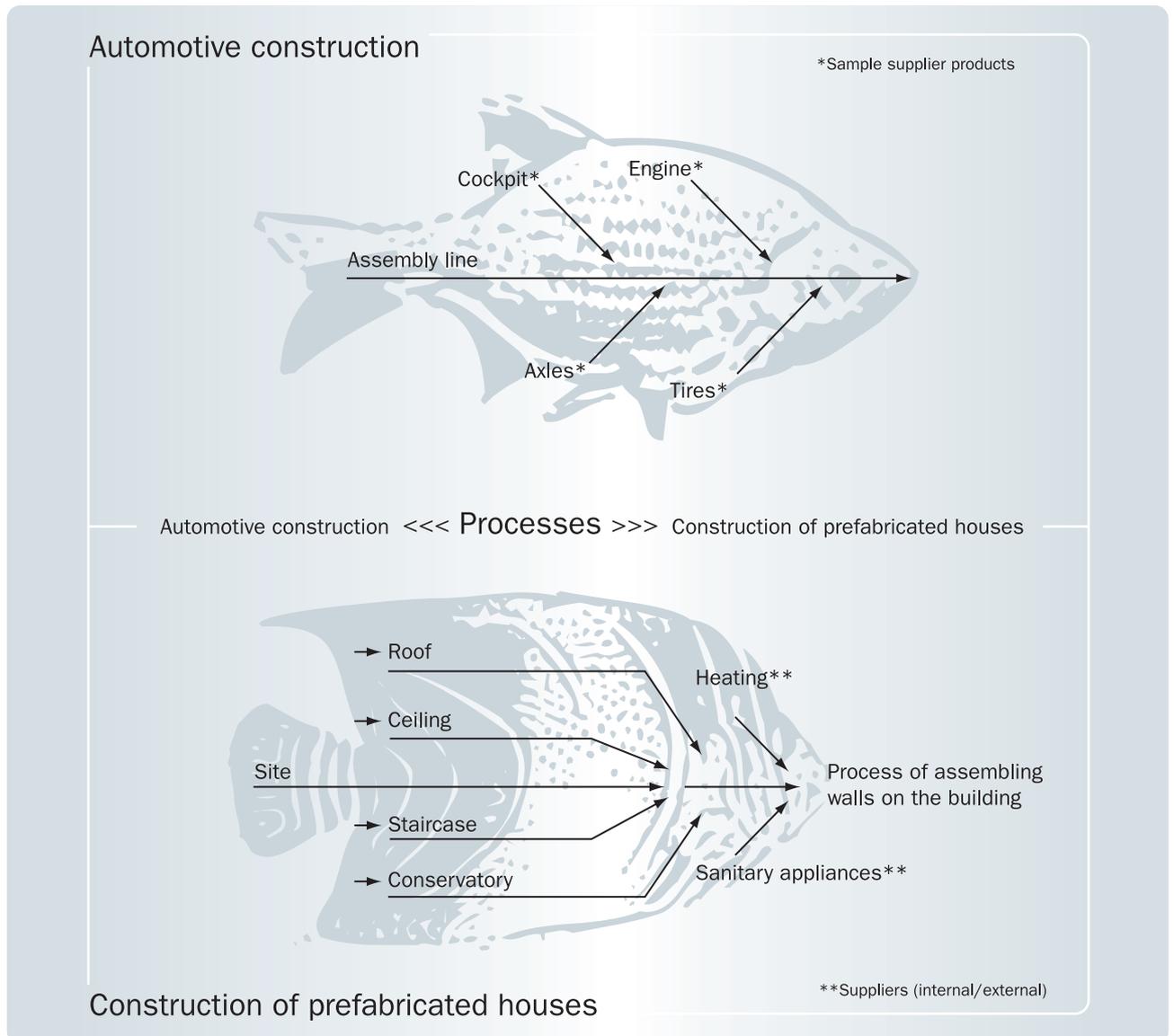
Besides Germany, WeberHaus also builds houses abroad, especially in Switzerland, Austria and France, and Britain may be next. Such a development also raises the question as to whether the production department is

capable of meeting the ever increasing demands placed on it. "The automotive industry, and above all, Porsche, clearly sets the standard when it comes to production companies. This is why we sought assistance from this sector," says Ralph Mühleck.

Thinking outside the box was a result of this, as far as he is concerned. Traditional flow production, featuring assembly operation and standardized components, is used in both the construction of prefabricated houses and in the automotive industry. And yet: for Jörg Kaiser, the project manager from Porsche Consulting, and his

colleague Till Friedrich, the main task when they began working with WeberHaus was, above all, to successfully switch from one type of production to the other. Here, it can be very helpful to jump right in at the deep end. Just as fish glide smoothly through the water, the “fishbone

diagrams” below clearly illustrate, and are a prime example of, lean production processes with well-functioning interfaces. They also represent an optimum overall system, which makes it very easy to understand how production processes from the automotive industry are ▶



Fishbone diagrams: Abstract representation to illustrate the production processes which are similar to those used in the automotive industry



Windows and doors are fitted all along the wall: Things are done quickly and efficiently at the production plant

adapted to prefabricated houses. So far, we are not actually diverging from the subject matter, if you approach it in the right way.

During a pilot workshop and a one-week trip to the Porsche Akademie in Bietigheim-Bissingen, in which the management team also took part, this view was honed into the minds of the employees responsible for this project, and preparations were made for implementing the first measures in production. However, it soon became clear that it was not enough to simply restructure production. In contrast to the automotive industry, production only accounts for a small part of the overall added value in the prefabrication construction industry. Stable

production planning is largely dependent on order processing. Moreover, production is very complex in the prefabrication construction industry, particularly when unique construction (single orders that are produced to meet the customer's individual requirements) still accounts for around thirty percent of all production.

A planning team made up of production and assembly managers as well as members of staff from materials management, production planning and project management therefore drew up an order processing chart. Processing is controlled and monitored by a so-called control funnel. At different stages, time-specific questions must be clarified before producing any of the prefabri-

cated house components. This means clarifying matters of financing, planning permission, the availability of critical components and when they are to be delivered (for example special tiles from Italy) and early determination of the various volumes of work, in order to be able to incorporate them harmoniously into the production process.

Adopting a consistent and standardized approach to completely different construction intentions naturally leads to large variations in production. For this reason, WeberHaus introduced flexible working hours. However, even more important is the flexible pool of staff. Well over 50 percent, or around 150 workers, have gained additional qualifications, and can now be employed in production where they are urgently needed.

The new transparency of processes ranging from planning to production planning through to production and the recently developed quality-management procedures are beginning to bear fruit. It has thus been possible to significantly reduce the number of night shifts worked, for example. The quality management model taken from the automotive industry defines key figures for quality, costs, delivery service and employees as well as for product and process quality. However, WeberHaus is still far from achieving its self-set goals. The structure specifically set up to deal with the Continuous Improvement Process is to ensure that positive changes are continually introduced. New targets have already been set and incorporated into the planning for next year. Optimization of the final assembly process is underway, and already showing positive results.

The switch to a lean and transparent company is giving rise to a new company culture. “Dynamism and the willingness to change have noticeably increased” says Michael Schulten, managing director responsible for technology, “and the spark is continually reignited dur-



Ralph Mühleck: Clearing the way for further potential growth

ing the workshops.” One decisive factor is that while employees in production had previously begrudgingly ironed out the defects left by their colleagues, new sets of quality criteria now stipulate that defects no longer be accepted. Defect potential sheets, which record the cause and cost of defects, ensure that defects are reported quickly as they happen or shortly afterwards by production to the planning department. This helps to ensure that defects are eliminated rapidly.

“In this regard, it was very important that we incorporated planning and production planning into the restructuring process,” says Jörg Kaiser, “otherwise, we would never have been able to achieve such good results in production. The fact that the management team fully supported this decision and was committed to working on it was also a decisive factor in its success.” Ralph Mühleck is enjoying witnessing the benefits of this with his own eyes, time and time again: “The clear view through the production hall is much better than it was before, and opening the way for further growth.” ◀