09.04.2019 / Michael Kämpf

Procurement 4.0 - cost-optimized purchasing

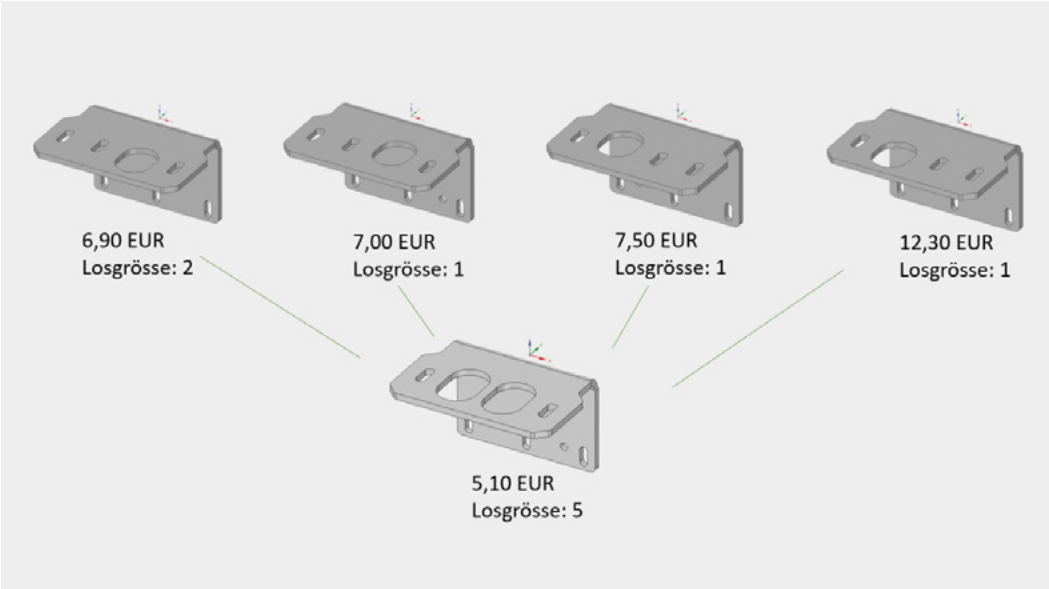
The opportunities and challenges of Industry 4.0 are also making inroads into our jobs at Muller Martini. Using an example from my job in strategic purchasing, I will illustrate how we are integrating and taking advantage of these opportunities in our day-to-day work.

Industry 4.0 is, of course, not only for our finishing machines. THE big topic. As a mechanical engineering company, we are also looking intensively into what Industry 4.0 can offer and switching to a smart factory. In a company like ours, there are many projects running parallel, which are working toward this objective. Be it spare parts management with a highly automated ordering process in our online store, the digital service platform MPower, which provides access to all service-relevant information, or new communication options that change the way we collaborate.

In production planning and assembly, we are also working on numerous projects that will allow us to use data consistently and without manual intervention. This is particularly important for short-term delivery deadlines and small print runs that need to be processed efficiently.

One piece of this puzzle is our new tool, which supports us in strategic purchasing. We started it as a small data mining project 18 months ago by importing a large number of drawings and the corresponding 3D data of production parts using the software from Shouldcosting. The analyses provided answers to many questions that arise daily in purchasing: Which products offer potential savings? What price is justified for a new part? Do we buy homogeneously within product groups or from suppliers? Are we using our data profitably?

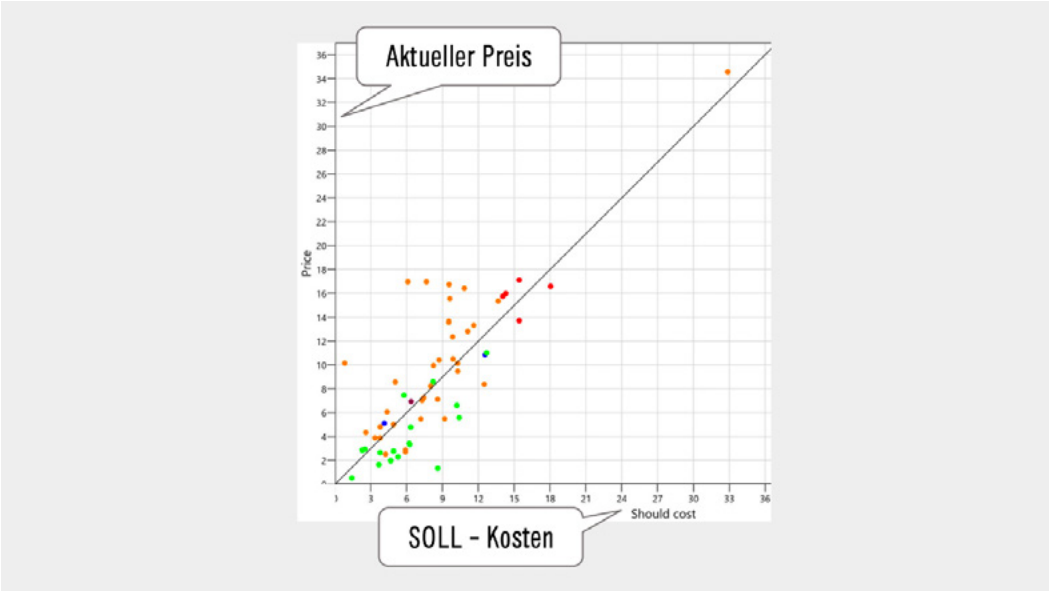
It was very interesting to see how many different components have accumulated in our data repository over the 70-year history of Muller Martini. And, above all, how many similar parts there are, some of which differ only in minor details. The analysis enables us and our technicians to optimize similar parts, so we can achieve a larger batch size and therefore also secure lower purchase prices.



Findings from the data mining project: How many components in our portfolio are similar or the same? And to what extent can we optimize the purchase price?

Our material designations have also accumulated over the years to form a long list. New generations of developers and no overview of our data meant that up to 20 different material designations were found when analyzing the data for a material. And we are only able to read information from drawings that is stored on them and not in the CAD/ERP system. For example, if the drawing displays the „pasting“ method, this tool enables us to recognize this automatically and add it to the corresponding databases.

For me as a strategic buyer, the possibilities offered by the software are very helpful in my day-to-day work. That means I need very little time to have a pretty accurate idea of how much a part should cost. An algorithm calculates which costs will be incurred in production on the basis of design data, such as material, material processing, processed surfaces, existing drill holes and other information. These algorithms are based on large data volumes and empirical values that are compared with the current part.



The data analysis enables us to identify potential savings.

Once the price is established, I can estimate and evaluate our suppliers' quotes much better. This enables us to renegotiate the base price from the quotation in a far better way because we know approximately how far we can optimize the price downward. At the same time, we can also run simulations to identify the country or even the supplier offering the cheapest price. Having such good background knowledge means we have a much stronger position in negotiations.

We also have a tool, which uses another method known as MLPP (Multi Linear Performance Pricing), to mathematically assess the costs of industrial goods. We have been using this tool for around three years to assess, for example, the prices of frequency converters, motors, pumps, etc. This enables us to conduct the relevant purchasing negotiations efficiently on the basis of hard facts.

These methods help us in strategic purchasing to offer our customers machines at competitive prices. The digital tools provide great support in responding to market changes quickly and effectively.

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