

## Future success with fast and precise offer calculations

**Offer calculation represents a great challenge for many companies in the metal industry. Especially in an economic downturn new orders with competitive prices have to be won.**

If, however, the basis for a fast and precise calculation is missing, correct decisions are difficult. There is a danger that the profit margin and thus the company result will deteriorate. The reason for this is often the uncertainty regarding product-specific manufacturing costs due to high manufacturing complexity with alternative production routes as well as product-specific processing times.

In many companies, quotations are only calculated on comparable products which have been revalued in the past, which means that current price changes (energy, etc.) or efficiency enhancement programs (increased plant performance, etc.) are not reflected in the product costs. Sometimes, in addition to that procedure, a rudimentary Excel calculation solution with an outdated database is available. To make matters worse, many departments often work in a sequential process, which extends the time of

calculating costs.

The quote calculation is about the highest possible cost transparency and speed, so that a competitive but also profitable price can be placed in the customer offer. The price quoted to the customer determines the future margin and together with the speed of offer process it is decisive for winning future customer orders.

An ERP system can support the process in such a way that the expected manufacturing costs for the desired product can be determined based on the latest data (e.g. actual energy costs) and documented expert know-how, by simply pushing a button. The approach here is "variant configuration", which automatically determines the bill of material and work plan for cost evaluation based on the available product specifications.

"Variant configuration" provides particularly good quality if it is based on an intelligent and complete set of rules consisting of object dependencies and master data. The challenge in developing this set of rules is, that despite only roughly known product

### PROCESS OLD

Basis: Excel-calculation



### PROCESS NEW

Basis: ERP calculation



## METAL MEETS CUSTOMER CENTRICITY

B&C is currently preparing the 4th round of "Metal Meets" bannered by "Customer Centricity". On **20.02.2020** the Metal Meets Community will discuss this topic, which is especially exciting and relevant during weak market phases. Again, interesting external speakers will share their insights and practical approaches in the community. We look forward to using this platform to provide you with inspiring ideas for the next steps on the way to the "customer at the centre". Therefore: **Save the Date!**

specifications and the high manufacturing complexity, the cost information must be precisely identified.

To ensure that the solution is based on a robust foundation, first, the components of the calculation and the set of rules must be clarified with great care. Afterwards it can be implemented in a system.

### Conclusion

An ERP-based offer calculation creates a robust basis for an efficient and well-controlled approach to customers. It enables the sales department a quick and independent (without the support of other departments) way to determine a profitable and competitive price.

Contact:

[benedikt.schmidt@bronk-company.com](mailto:benedikt.schmidt@bronk-company.com)

For the second time B&C shaped the GDB's annual meeting. In the "Supply Chain Committee", Mr. Hartmann and Mr. Germeroth gave a keynote speech and a workshop to guide participants from industry and GDB through an intensive discussion. The topics of interest being today's and future profitable approaches to digitizing sales and order processing.

## Dynamic Material Allocation: Why is it a planning challenge?

**Actually quite simple: customer orders are produced as ordered within the required specifications. But then quality deviations, batch completion and deadline problems mess up the "standard" procedure.**

In a mass-market, where many pieces of material are produced within and outside given tolerances (according to geometry, surface, mechanical-technological properties), the material allocation is a real challenge.

In cases outside of the standard procedure, the material allocation must react dynamically to the produced material properties. The decisions in allocating material have direct influence on the product profitability and thus the company result. The complexity is so high due to a m:n relationship between different material pieces with their individual properties and diverse customer needs.

Under the following circumstances, a "dynamic material allocation" is essential:

- » Anonymous production up to the decoupling point and subsequent final production considering specific customer requirements and deadlines. E.g.: Anonymous production of slabs due to optimal production lot sizes.

- » Unavoidable quality deviations due to the production process:
- » Material cannot be used for the original sales order, thus a new use for this material has to be allocated.
- » The original order cannot be supplied with enough material resulting in a shift in production to supply missing material or reclassification of excess units

### What is important?

In order to optimize and automatize the material allocation, the transfer of the most complex material properties into systematically readable attributes is the essential basis. Only then can the properties of the physical material be checked with the customer-specific order specifications.

Depending on the kind of product and the production stage, the complexity of the allocation problem varies considerably. There is basically no standard solution for the data coding of material properties in the metal industry and as such, it is always handled individually. In the worst case, material properties are recorded in free text fields or even by hand records. Similarly, the coding of customer order specifications is often solved very individually.

In the metal industry, the material allocation is often operated with little

system support. Instead it is done by well-trained employees with a lot of experience. But handling complex rule sets manually, makes it difficult and unlikely to find the "optimal" solution.

In IT tools, the dynamic material allocation is usually formulated as a mathematical assignment problem, which is solved by linear optimization algorithms (solvers). This requires organizations to make expert knowledge transparent and documented in a set of rules. The target system of the optimization should be adaptable to the current corporate goals.

### Conclusion

- » The material allocation significantly influences the product profitability and thus the company result. Therefore, it is worth the effort to establish a dynamic material allocation and enhance the process step by step.
- » The technological barriers to automate a dynamic material allocation have never been as easy to overcome as they are today due to the rapid development of digitalization. Therefore let's get started.

Contact:

[ralph.ammon@bronk-company.com](mailto:ralph.ammon@bronk-company.com)