SIEMENS

Siemens PLM Software

Tool costing

More transparency for tool costs

Benefits
- Improved understanding of cost drivers and their impact on cost
- Improved knowledge management for all buyers and cost analysts
- Assistance in cost structure negotiations and value engineering workshops with tool manufacturers and tool suppliers
- Reduced tool spending and improved quotation performance of suppliers
- Meet target costs through a detailed and verifiable tool cost analysis
- Retain cost know-how within the company with database-driven cost calculations

Summary
Global procurement markets and increasing cost pressures require professional cost management in the field of molds and tools. Shorter lifecycles paired with higher product variability mean that the share of tool costs in relation to the total costs of a product line is steadily increasing. Therefore the tool costs become a critical focus of cost management – both in tool and mold making and in tool purchasing.

Due to margin pressure, tool costs are an important foundation for the success of products – in the quotation of costs and in the purchase price analysis of tools. It is increasingly important to have detailed and reliable information on tool costs in the early stages of product development.

Tool makers are challenged to quickly create reliable quotations and transparent cost breakdowns for tools. On the other hand, tool buyers need to constantly optimize tool spending and ensure the improved offer performance of suppliers. Due to the

increasing complexity of tools and smaller production runs, this balancing act is a challenge even for experienced tool specialists, and succeeds only with the help of a powerful cost calculation system that delivers faster, more accurate and comprehensible results based on parametric models.

The Teamcenter® software for Tool Costing helps you in these challenging tasks. With Tool Costing you can create valid tool cost calculations in less time, with detailed cost breakdowns. You can easily manage tool versions and changes, and you can secure the calculation knowledge within the company. These capabilities are a significant improvement over the disconnected solutions still in widespread use.

Parametric methods, 3D-based tool cost calculation
Tool Costing enables a parametric calculation of various tool technologies such as injection molding, high pressure die casting, progressive die stamping, laser cutting, and others. To begin the calculation, you

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Tool costing

Benefits *continued*
- Reduced time and effort for the preparation of cost breakdowns
- Strengthened cost negotiating position for suppliers
- Improved return on investment by calculating tool variants and changes

Features
- Parametric 3D-based methodology
- Flexible cost calculations and individual reports
- Company-wide knowledge management on a database platform
- Import and export of customized cost breakdown sheets
- Establishes reliable shadow calculations
- Supports all major tool technologies: injection molding, die casting, progressive dies, laser cutting
- Tool profiles for flexible adaptation to specific circumstances

simply select the tool technology and describe the part geometry. You can directly analyze and import 3D computer-aided design (CAD) part models from systems including NX™ and Catia® software, from neutral exchange formats such as the Initial Graphics Exchange Specification (IGES) or the JT™ format, or by manually entering values. Through a series of standard display functions in the 3D tools such as measuring and sections, many part features such as undercuts, domes, ribs, and others are easily and flexibly recognized. Such part features are associated with cost information in Tool Costing.

Reference data for reliable cost analysis
With Tool Costing you have access to an extensive collection of master data. The selection of profiles and locations from this master database enables you to leverage preconfigured information like specifications, manufacturing techniques and hourly rates. This information can also be configured to customer requirements. The result is a tool costing calculation with a high level of detail which allows you to be flexible in creating cost breakdowns.

The integrated knowledge database in Teamcenter includes reference data such as labor costs, materials, machines and processes, as well as an integrated cycle time calculator, ensuring an enterprise-wide consistent calculation standard. This increases the transparency, quality and efficiency of costing processes. With this comprehensive

understanding of processes you can optimize the cost of manufactured and purchased tools.

Purchase price analysis
For the tasks within the purchase price analysis, cost engineers can use Tool Costing to do shadow calculations as a plausibility check on the calculations of their suppliers. They can use Teamcenter information such as technology data, part descriptions or 3D data to create cost calculations using the parametric methodology. In general, buyers can expect much more than just a tool price. The result is that suppliers must submit their quotes as cost breakdowns. With Tool Costing, this cost breakdown template can be imported easily by the buyer and immediately compared with his own shadow calculation. Differences in the calculations are immediately transparent and support fact-based discussion between purchasing and supplier.
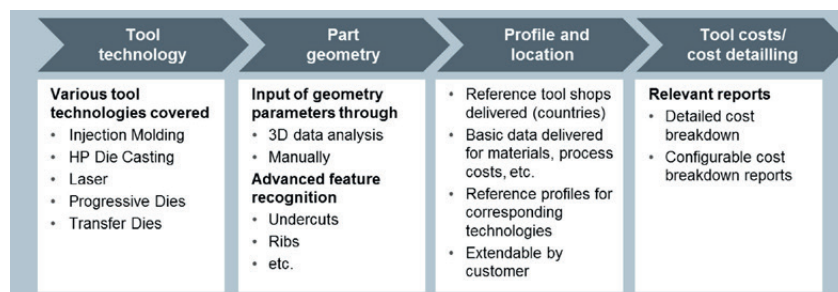

Import of cost breakdowns in Tool Costing, and comparison with a shadow calculation.

With the capabilities of Tool Costing, tool buyers have transparency on price composition and the relevant cost drivers, and can assess quotations in detail based on cost and technology aspects.

Target costing
For tool manufacturers, increasing product variety and shorter product lifecycles means an increased volume of work through a higher number of requests for quotations (RFQs). The quoting process must be reliable and inexpensive, with precise tool calculations and transparent cost breakdowns in a short time frame.

The parametric calculation methodology in Tool Costing enables an optimum balance

Tool technology	Part geometry	Profile and location	Tool costs/ cost detailling
Various tool technologies covered • Injection Molding • HP Die Casting • Laser • Progressive Dies • Transfer Dies	**Input of geometry parameters through** • 3D data analysis • Manually **Advanced feature recognition** • Undercuts • Ribs • etc.	• Reference tool shops delivered (countries) • Basic data delivered for materials, process costs, etc. • Reference profiles for corresponding technologies • Extendable by customer	**Relevant reports** • Detailed cost breakdown • Configurable cost breakdown reports

between accuracy and time-based calculation effort. Using the integrated cycle time calculator tool, manufacturers can determine cycle times and thus reflect their own production capacities. Simulations of technical and economic scenarios help toolmakers to get effective answers to these questions:

• Where to produce?

• What are the impacts of changes in commercial factors such as production volume, raw materials or prices for purchased parts?

• What are the impacts of changes in technical parameters such as product or design variations, manufacturing technologies and materials?

With Tool Costing, tool manufacturers can also easily document costing histories and changes, and quickly and flexibly provide the required cost breakdowns in customer templates. In case of recurring changes, a quick and secure creation of cost breakdowns with Teamcenter means a competitive advantage for tool manufacturers.

Common platform for product and tool costs

The quality and design of a tool affects not only the tool costs, but also the cost per piece of manufactured parts. An optimized estimate of the total cost requires an overall assessment of part and tool costs. In practice, most companies lack an integrated calculation system for part and tool costs, so the overall cost evaluation is often difficult or impossible.

The Teamcenter solution offers a unique opportunity to determine the interactions between component and tool costs at different volumes, and makes tool designs reliable and transparent. You can use the combination of Tool Costing and the Teamcenter software for Product Costing for a fully integrated calculation solution. In addition, the tool costs within the integrated solution are considered holistically through the product bill of materials and the product/project program. Changes to tool costs can be automatically updated on the product and project level.
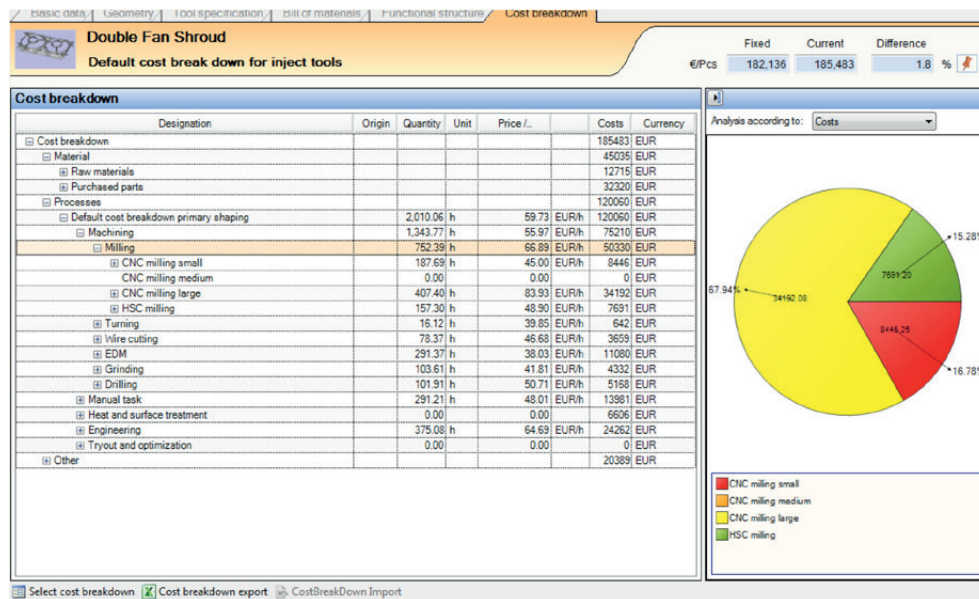
Tool cost calculation generated in Tool Costing.