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**GEOMETRIC  
SOLUTIONS**

# Teamcenter product costing

## Delivering cost transparency throughout the product lifecycle

### Benefits

- Provides efficient processes for cross-functional precosting
- Delivers standardized costing methodology and a consistent database
- Enables the company-wide exchange of cost information
- Provides complete cost transparency for all involved business functions
- Ensures cost-effective return on capital over the product lifecycle
- Delivers optimized purchase prices through knowledgebased cost analysis
- Provides reliable quotations with secured margins

### Summary

For manufacturing companies, the most important consideration after product innovation and quality is how costs will affect their ability to compete in the global marketplace. Developing detailed cost knowledge and maximum transparency across the entire value chain is indispensable for achieving excellent product cost management.

According to a Defense Advanced Research Projects Agency (DARPA) study, 80 percent of future production costs are determined in the first 20 percent of the product lifecycle. The traditional cost accounting in enterprise resource planning (ERP) systems does not provide sufficient support for a reliable cost analysis in the early phases

of product development. Typically, ERP systems do not allow you to capture and analyze costs early enough in the context of the product design and development process to make a difference. By contrast, Teamcenter® software product costing from Siemens PLM Software enables you to make decisions in the early stages of the product lifecycle when you can have the greatest effect on costs.

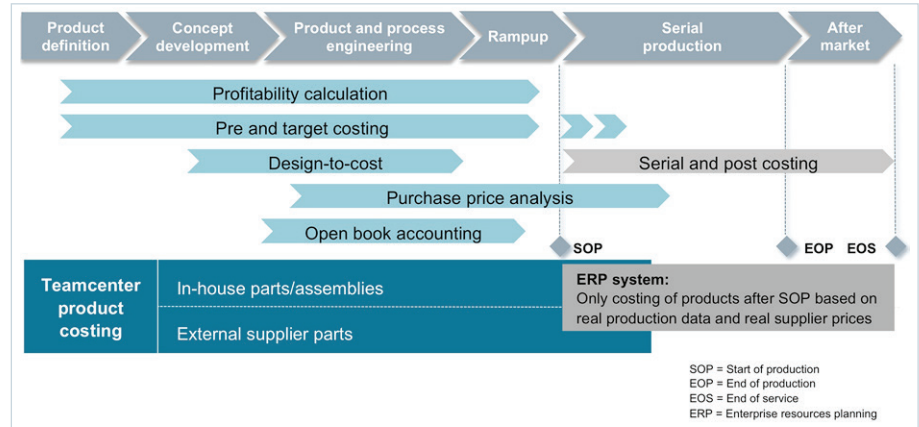
### Benefits of an integrated costing platform

If a company doesn't have standardized calculation methods, it can cause them to miss or exceed target costs. It is also difficult to re-use similar calculations and perform reproducible calculations. Software solutions in the field of cost calculation are often not integrated and are used as a standalone solution. Teamcenter product costing provides an enterprise-wide platform for managing calculations, and thus provides the basis for standardized costing methods, models for fact-based calculations and transparency into cost drivers. Teamcenter product costing provides the ability for data exchange with customerspecific systems (for example, ERP).

# Teamcenter product costing

## Features

- Process-based bottom-up calculation and cost models
- Integrated cycle time calculators for selected technologies
- Flexible simulations of what-if scenarios
- Profitability calculations
- Flexible reporting functions
- The 3D visualization, analysis and extraction of cost relevant data for a part
- Cost-relevant knowledge database
- Import and export of cost breakdown sheets

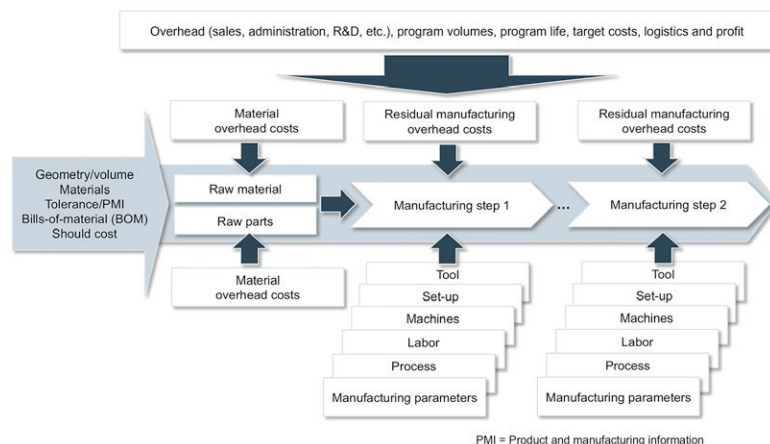


Covered use cases within the product lifecycle.

## Process-based overhead costing

Teamcenter product costing uses the methodology of the above calculation based on a bottom-up approach. This approach is based on a detailed product structure and defines the use of material and process costs. Teamcenter provides the data required to make a bottom-up calculation. These calculations are based on current benchmark data for manufacturing technologies, machines, materials and worldwide labor costs. Existing data, such as material costs, standard parts and standard processes, can be re-used from other systems. For cost modeling, the bills-of-material (BOM) can be mapped and viewed in detail on the assembly,

subassembly and module level. The cost calculation in the BOM is based on cost information for raw materials, additional (purchased) parts, work plans and overhead. As a result, you receive detailed cost information that you can use for all kinds of reports (for example, cost breakdowns). Teamcenter product costing provides a range of should-cost calculations and analysis. These provide dynamic cost transparency into in-house production, especially for parts purchased from suppliers. Each new calculation in Teamcenter extends your knowledge of in-house production costs and purchased parts. The re-usability of calculations makes future cost developments transparent.



Flexible calculation based on bills-of-material and bills-of-plan.

**Reference data for reliable cost analysis**

Information on cost factors such as worldwide locations and suppliers are required in order to continuously increase the value proposition of your purchased or self-manufactured components. Teamcenter product costing includes a current database with reference data, such as labor costs, materials, machines and manufacturing processes, as well as an integrated cycletime calculator. This data makes reliable make-or-buy, relocation or global sourcing analysis possible and can be used to reduce manufacturing costs.

**Company-wide consistent solution**

With Teamcenter product costing, you can simulate product costs cross-functionally and analyze and optimize them. Various departments, such as cost engineering, purchasing, controlling and sales, can work together by using Teamcenter to achieve the maximum benefit.

**Target costing**

Complex assemblies and versions are calculated accurately and quickly, and technical and business what-if scenarios can be simulated with Teamcenter product costing. This allows a quantitative assessment of the cost level: how will commodity price increases affect product prices? What changes will impact labor costs? What changes will have an impact on product design? This

knowledge leads to an early and transparent view of the target cost, enabling manufacturing costs to be managed within a range in the early stages of the product development process. This makes collaborating on complex calculations in divisional and multi-site projects easier and more efficient.

**Purchase price analysis**

As a buyer or procurement officer, you can use Teamcenter product costing to run reliable cost estimates of supplier parts on different commodities. This is also possible with various raw materials and manufacturing processes.

Teamcenter product costing also helps you in cost structure negotiations and value engineering workshops with suppliers. Based on these cost estimates, you can negotiate future purchase prices based on reliable cost details. If desired, you can establish an open-book policy.

**Profitability calculation**

By using the profitability calculation functionality, executives and managers can secure product investments by predicting future unit costs and prices over the entire product lifecycle. With Teamcenter product costing, you can transparently break down annual costs, revenues and cash flows and provide the basis for relevant indicators, such as internal rate of return (IRR), net present value (NPV) and payback periods. Using the discounted cash flow calculation,

Key application fields				
Controlling/ costing	Controlling/ finance	Purchasing/ cost engineering	Cost engineering	Sales/program management
Pre and target costing	Profitability calculation	Purchase price analysis	Design- to-cost	Open book accounting
Standardized methodology - Consistent data management - Transparency - Efficient processes/interfaces				
Achievable cost targets	Adequate return on investment	Best cost-based purchase prices	Cost-adequate product designs	Profitable sales prices

Developing a consistent company-wide solution.

you can determine the profitability of your projects as well as compare projects and programs in your company, including return on investment (ROI), return on capital (ROC) and return on sales (ROS) to make the best investment decisions.

### Design-to-cost

You can represent the entire price structure of your products in Teamcenter, and cost engineers can see the impact of development-related changes on the price at any time. You can identify the cost drivers early in the development process, and suggest alternative solutions. With the opportunities for cost simulation in Teamcenter product costing, such as comparison of manufacturing technologies, you can also reproduce different scenarios for manufacturing.

### Open-book accounting

Teamcenter helps you negotiate with your customers using optimized but comprehensible cost data in customized formats. You can use and explain this data in open-book conversations with

the customer's costs experts to establish your price. By presenting a clear cost structure and plausible breakdown of the product costs, you have a stronger negotiating position.

### Integrated tool costing

The combination of Teamcenter product costing with Teamcenter tool costing shows the interaction between components and tool costs at different volumes, and makes tool designs reliable and transparent. 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.

Teamcenter product costing provides you with the opportunity to optimize product costs to maximize margins, profits and return-on-investment. You get reliable cost estimates and transparency to achieve target costs, optimal procurement prices and profitable sale prices.

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