

## Providing the right people with the right data to improve the part manufacturing planning process

**Siemens PLM Software**

[www.siemens.com/tecnomatix](http://www.siemens.com/tecnomatix)



Teamcenter® software's manufacturing process management solution provides Part Planner capabilities for enabling manufacturing engineers, NC programmers, tool designers and managers to work in a managed environment with built-in applications for creating outline process plans, managing and associating tools, and creating reports targeted at part manufacturing. This application links the tasks of manufacturing planning while extending data access to the shop floor. With faster access to the right data from a common information platform, users are able to improve communications, eliminate errors and save time during the piece-part manufacturing planning process.

## Manage manufacturing planning processes

## Working with geographically dispersed teams

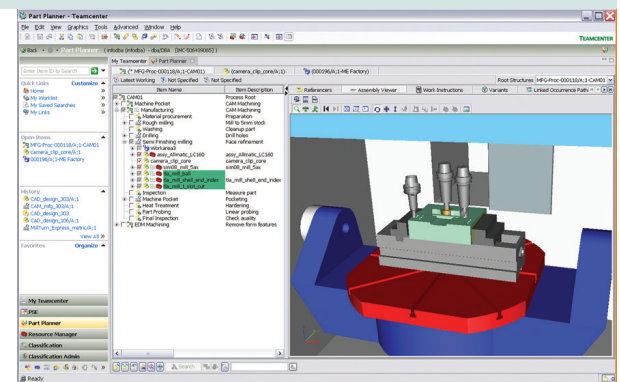
An effective manufacturing plan includes information that describes what is being manufactured, how it will be manufactured, what resources will be required during manufacturing and where it will be produced. This information resides in various files created by the manufacturing planning department that includes the part file, NC programs, shop documentation, tool lists, specifications and drawings.

For optimal part manufacturing efficiency, plan data and processes must be properly managed and connected in an environment that all players in the manufacturing organization can access to communicate and collaborate with each other during the manufacturing planning process, as well as to locate the information they need for this process.

You can use Part Planner to create a manufacturing process in both a hierarchical structure and a process sequence (e.g. casting inspection process, machining process 1, machining process 2, finishing process, inspection process, coating process) using graphical editing and displays.

You can assign and associate standard resources, manufacturing specifications and plant information to each operation step. You can facilitate collaboration by linking data created by others to the manufacturing process.

You can also use Part Planner to create and classify process/operation templates so they can be re-used for multiple purposes. In addition, Part Planner automatically generates work instructions for your manufacturing plan. You can assign postprocessor and machine tool simulation files, managed in Teamcenter to ensure proper versioning and availability across multiple user/sites, to operation steps.



Defining the manufacturing process sequence and associate product, resource (tooling, fixtures) and plant (machines, work cells) data.

## Features

Manage manufacturing related data, files, documentation

Leverage 3D product data in manufacturing planning

Manage ptp, shop doc, clsf, template files

Re-use tooling and fixtures

Capture and classify best practices for later use

Embed quality checks

Automate reporting, change control, workflow

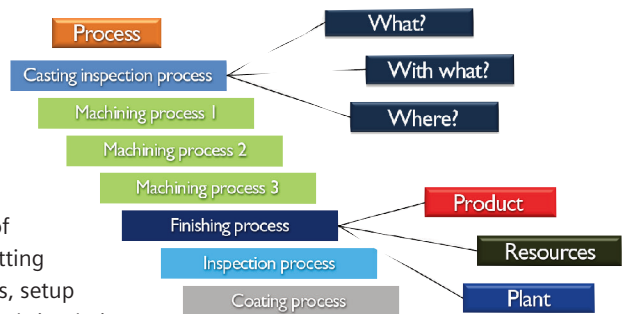
Store calculated machining and cutting tool usage time to estimate utilization requirements

Bi-directionally integrate with NX CAM software

Integrate fully with Teamcenter's manufacturing process management solution and its resource manager for tooling, fixtures, machines, templates and standard operations

## Managing product and process data

You can employ Teamcenter to establish a single source for managing your manufacturing data elements and enabling entitled users to view and obtain detailed planning information. Teamcenter can manage a wide variety of information, including machine tools, cutting tools, workpieces, part files, NC programs, setup templates, postprocessor and machine tool simulation files, CLS files, post-processor output files, work instructions and work cell configurations.



You can leverage Part Planner to vault, search and access product/process data to facilitate re-use, editing and review. You can also use it to check-in and check-out data, as well as to automatically manage revisions. Because NX™ CAM software is integrated with Teamcenter's manufacturing process management solution, NX CAM data is fully managed.

## Validating the manufacturing plan

You can use Part Planner to ensure that your process sequence is properly defined through reporting and visualization capabilities that can be applied to your cost estimates and part diagrams.

You can identify and update the manufacturing process to reflect design changes and analyze the impact of changes on the manufacturing process and operations. You can store estimated machining and cutting tool utilization time for NC programs to help plan for cutting tool replacement and machine tool setup requirements.

## Coordinating the planning process

Part Planner enables you to work with others in the organization by assigning, routing and tracking progress on work tasks and by using workflow automation tools. For example, you can assign steps to specific NC programmers.

You can use Part Planner to load, compare and modify multiple process plans. You can view, approve, reject and comment on product and process information, as well as release completed process data to production.

## Connecting planning to shop floor systems

You can connect Teamcenter's manufacturing process management solution and DNC (Direct Numerical Control) to provide access and direct transfer of machining plan data to CNC machines on the shop floor. You can transfer manufacturing planning resources from the NC program to the shop floor to ensure manufacturing instructions are kept consistent with production practices.

In addition to improving the overall part fabrication planning process, Part Planner also makes the jobs of everyone involved in the planning activity easier. For example:

- Manufacturing engineers can create outline part manufacturing process plans and store proven process methods as best-practice templates for re-use in later jobs.
- Tooling professionals can manage tooling and fixtures in a central library, assign them to operations or cells and even create simple assembly operations.
- NC programmers can leverage a process-based environment to manage NC programming data, eliminating the need for user file management in personal directories on local PC discs. Data created by NX CAM can be automatically managed in the context of machining operations.



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