SIEMENS

Answers for industry.

Manufacturing Resource Library

Benefits

- Easily manage tooling components and assemblies
- Include vendor catalogs along with user components
- Develop tooling assemblies quickly
- Re-use proven processes and resources
- Save time looking for resource data
- Encourage use of standard resources and methods
- Reduce inventory and costs
- Easily prepare shop documentation such as tooling setup sheets
- Avoid duplication of resource data
- Visually identify resource data through 2D/3D graphics
- Improve utilization of manufacturing assets

Summary

Teamcenter® manufacturing resource library is a data and process management application that manages all of your tooling components and assemblies in a dedicated library. You can also manage a wide range of additional manufacturing resource data including machine tools and fixtures, robots, welding guns and manufacturing process templates. The Manufacturing Resource Library provides a comprehensive structure under which data can be classified; it also enables you to conduct parametric search queries to retrieve the data. Users can retrieve data from the Manufacturing Resource Library and directly use this information in Teamcenter and NX™ CAM sessions. In addition, it can be configured as a standalone library system.

Specialized cutting tool management

The Manufacturing Resource Library provides specialized storage and management of cutting tool components and assemblies. More than 300 component data classes and 70 assembly data classes are provided to store, search and select nearly every imaginable kind of cutting tool.

Import vendors' tooling catalogs

Vendor catalogs can be imported into reference partitions. Then specific components from those catalogs can be stored along with other customer components as currently used. In this way, multiple catalogs can be available for searching when needed, but are not in the way of day-to-day usage of the tooling that is normally stocked and used by a specific NC shop.

Guided assembly

From these components, tooling assemblies can be quickly put together. Guided search capabilities filter the components so that compatible holders, extensions, collets, etc. are easily found and assembly mismatches are avoided. Search rules are configurable to maintain best practices.

Easily maintain tooling data

Vendor updates and changes in stocked assemblies are easily managed. A component can be 'replaced' with an updated version, and the appropriate assemblies are automatically updated with the new information.

Manufacturing Resource Library

Business challenges

- Management and maintenance of cutting tool assembly definitions is difficult
- Too much duplicated effort
- Multiple databases of standard parts
- Excess inventory
- High planning and manufacturing costs
- Long product planning cycles
- Product and process quality
- Difficulty working with geographically dispersed teams

Features

- ISO standard import of components from vendor catalogs
- Guided component assembly automatically finds and uses compatible tooling components
- Solid tool representation includes cutting and noncutting zones
- Shared repository for resource data useful in NC programming, CAD tool design, CMM, simulation and process planning

Access tool definitions directly from NX CAM

Components and assemblies are represented graphically with solid models, including the cutting and noncutting portions of the tool. This makes both assembly and selection fast and accurate.

NX CAM connects directly to the Manufacturing Resource Library for tool selection. When tools are selected for use in NC programming, the solid models of the tools are immediately available for full simulation and visualization.

Use of library tools facilitates accurate tool lists and shop documentation.

Provide the right people with the right data to improve the part manufacturing planning process

The Manufacturing Resource Library provides a common environment that allows easy access to a library of all kinds of manufacturing resources in addition to cutting tool components and assemblies. The task of finding the right data when it's needed is simplified with a tailor-made classification structure that facilitates graphical viewing, a wide array of search features and version control management. The 3D graphics display makes it much easier to ensure that you have the right resource than reading through text records. Proven methods can be captured and re-used, resulting in higher levels of productivity, improved process repeatability and quality.

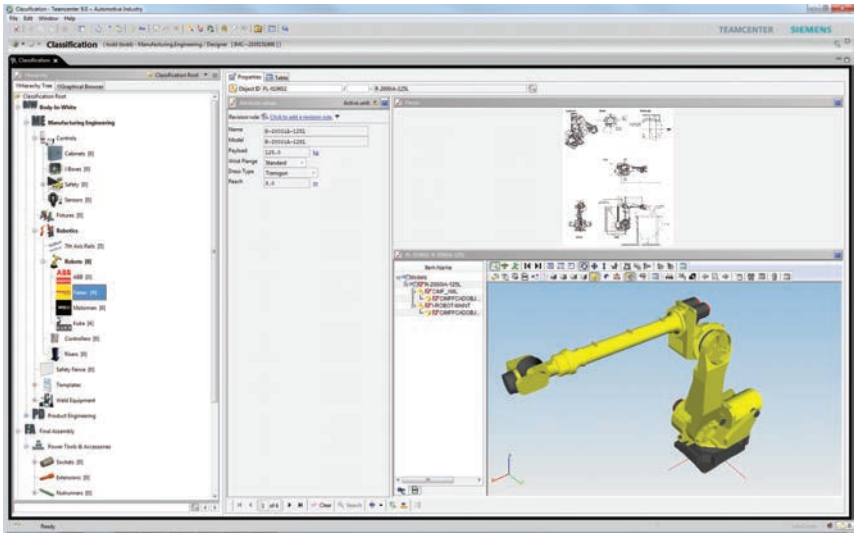
Building resources

You can use the Manufacturing Resource Library to create, edit, classify and search your own resource assemblies. You can include resources such as cutting tools, fixtures, machine tools, gauges, robots, welding guns and manufacturing process templates. The system guides you through the process of building proper tool assemblies by automatically filtering for workable tool component configurations that properly fit together.

You can leverage the Manufacturing Resource Library to extend the BOM structure of resources such as tool assemblies by appending type, tool gauge lengths and setup information.

Accessing manufacturing resources

Resource Manager enables you to gain easy access to a library of manufacturing resources. You can find the right data with a tailor-made classification structure that provides graphical viewing, a wide array of search features and version control management. The built-in viewer makes it much easier to ensure that you have the right resource than reading through text records.



Classifying and organizing resources with the Manufacturing Resource Library.

The Manufacturing Resource Library enables you to share resources with multiple sites, as well as control user access to specific groups, classes and resources.

Classification structure
Resources are classified using Teamcenter classification technology. Resources include classification information that can be organized in a hierarchical structure.

Classes are defined by name and a set of attributes. Attributes are the characteristics of the objects the class represents. For example, a class might include physical characteristics such as length, cutting diameter, weight, vendor and material.

Search engine
Searches can be performed within a class or subclass using all attributes. Wildcards or ranges can also be used as search criteria.

2D and 3D visualization
You can visualize resource assemblies or components with the built-in viewer using a variety of formats (bitmaps, vector graphics, 3D models). For 3D data in JT™ format, you can rotate, zoom, measure, cross-section or capture an image in the viewer.

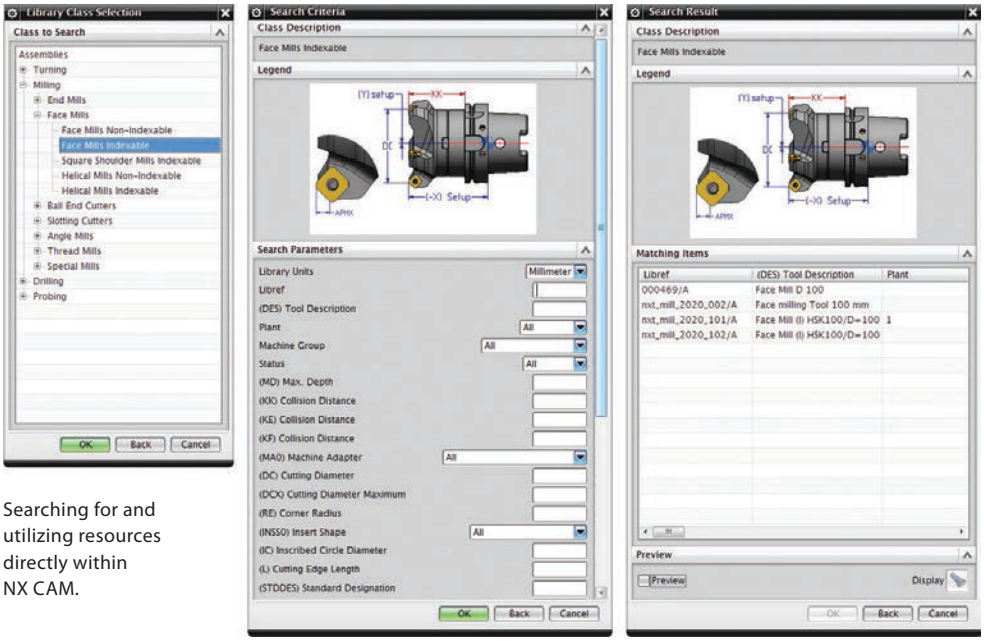
Integrating manufacturing planning applications
You can search for tooling, fixtures, machines and templates managed by the Manufacturing Resource Library directly within NX CAM and the Teamcenter part planner application (which is provided through its manufacturing process management solution). You also can associate the resources to process plans and manufacturing operations.

Because all of the manufacturing planning data is managed by a common system, you can perform queries on where specific resources are used, such as: In which NC programs are a specific cutting tool used? Which tool assemblies contain a specific tool component?

Connecting tool libraries to shop floor systems
You can ensure that manufacturing instructions are kept consistent with production practices by standardizing manufacturing planning resources in the Manufacturing Resource Library with those on the shop floor in the tool management system.

Features continued

- Comprehensive user definable classification structures
- Ability to rapidly build resource assemblies and subassemblies using guided component search
- Ability to incorporate standard libraries
- Parametric search engine
- Integrated 2D/3D viewer
- Integration with NX CAM
- Flexible reporting
- XML import/export



Searching for and utilizing resources directly within NX CAM.

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