



DIGITAL INDUSTRIES SOFTWARE

# NX X Manufacturing Value Based Licensing add-on modules

Extending product development features and capabilities

## Benefits

- Extend features and capabilities of NX X Manufacturing software
- Configure with process-, industry- and application-specific tools
- Provides flexible token-based licensing

## Summary

The NX X Manufacturing software suite is one of the most comprehensive part manufacturing suites, delivering enhanced flexibility, functionality and scalability and allowing you to manufacture for your future.

Using NX X Manufacturing enables you to shift your part manufacturing process left and bring products to market faster with multidisciplinary computer-aided design (CAD), computer-aided manufacturing (CAM) and computer-aided engineering (CAE) capabilities in Siemens Digital Industry Software's NX™ X Manufacturing, Designcenter NX™ software and Designcenter Solid Edge® software for designing, validating, simulating, visualizing and manufacturing.

NX X Manufacturing software is NX CAM on the cloud, providing the features and functionality of traditional NX CAM on the same architecture, plus the added flexibility, security and scalability benefits of a software as a service (SaaS) solution. With NX X Manufacturing, you can experience a flexible user experience powered by Siemens Digital Industries Software's cloud-centralized license management, configuration and updates, enabling you to focus less on information

technology (IT) and more on innovation. NX X Manufacturing also includes secure and trusted built-in data management capabilities, allowing you to get started with effective real-time collaboration immediately with a user dashboard, task management, communication and documentation and part tracking. With seamless integration with Designcenter X NX™, the Teamcenter® Share app and Simcenter™ 3D software, you can easily scale your engineering product lifecycle across the Siemens Xcelerator platform. Siemens Xcelerator as a Service, including NX X Manufacturing software, leverages leading cloud technology for data protection and data security and has been independently verified for data security and integrity by third-party security testing. More information on how Siemens is protecting your data can be found at [www.sw.siemens.com/en-US/trust-center](http://www.sw.siemens.com/en-US/trust-center).

NX X Manufacturing solutions are preconfigured, cloud SaaS tiered solutions. NX X Manufacturing Essentials, NX X Manufacturing Standard, NX X Manufacturing Advanced and NX X Manufacturing Premium are tailored to specific product development roles, practices and processes, with value-added upgrades moving you from one tier to the next.

You can extend and enhance the functionality of NX X Manufacturing Essentials, Standard, Advanced and Premium solutions exclusively through cost-effective and flexible value-based licensing (token licensing).

With just one NX X Manufacturing Value Based Licensing subscription, token licensing provides you with extra flexibility, as you can use the tokens to check-out any add-on module product that is part of the token pool when needed and then check it back in when done, releasing the token amount used for the module back for the next person to use. You also receive immediate access to new functionality as it is released into the pool. With NX X Manufacturing Value Based Licensing, you can customize and configure your NX X Manufacturing solutions with access to over 60 add-on modules that include specialized design tools, standard parts applications, metrology tools, automated workflows, direct translators, industry-specific applications and more. NX X Manufacturing and Teamcenter are part of the Siemens Xcelerator business platform of software, hardware and services.

All modules included in this fact sheet are part of the value-based licensing pool. Each module has a specific token value assigned for use.



## Modeling for Manufacturing

### Data Import and Export

NX X Manufacturing includes various core functionalities that enable you to exchange data between proprietary systems and NX X Manufacturing, check designs in full size with virtual reality (VR) tools and give you an extra boost in usability with artificial intelligence (AI)-machine powered programming.

#### [NX X Manufacturing Translator for STEP AP242](#)

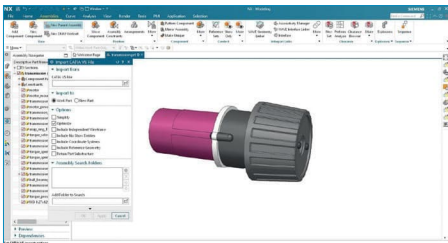
Achieve bidirectional translation using the STEP AP242 translation protocol.

#### [NX X Manufacturing Translator for CATIA V4](#)

Achieve bidirectional translation between CATIA V4 and NX X Manufacturing. Access files from the file open, file save as, file import and file export dialogs. This tool flattens assemblies to a single level for import and export.

#### [NX X Manufacturing Translator for CATIA V5](#)

Use this module for bidirectional translation and to read CATPart and CATProduct files. This tool reads coordinate systems, points and part substructure, geometry, assembly structure and attributes of color, layer and name into NX X Manufacturing.

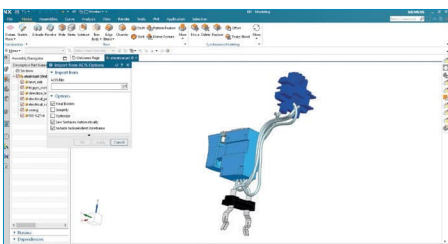


#### [NX X Manufacturing Translator for Creo](#)

Read Creo Parametric solids and surfaces from .prt and .asm files and create an NX X Manufacturing part or assembly.

#### [NX X Manufacturing Translator for ACIS](#)

Translate two-way data exchange between NX X Manufacturing and CAD models in the ACIS modeling kernel format.



#### [NX X Manufacturing Translator for Vericut](#)

Export NX X Manufacturing data to Vericut.

#### Advanced Modeling for Manufacturing

NX X Manufacturing includes high-performance assembly simplification and management, reusable parameter-driven design templates, and integrated mesh-to-CAD workflows for additive manufacturing—plus built-in visualization and photorealistic rendering to clearly communicate design intent for reviews, sales, and marketing.

#### Advanced Assemblies

Simplify components or subassemblies into a single light-weight solid, enclose assembly geometry in an envelope of planar faces, partition assemblies into meaningful regions and manage the weight and other mass properties and components

#### Studio Render

Create photorealistic images for design reviews, marketing assets and sales collateral by leveraging best-in-class rendering technology.

#### Studio Visualize

Simply drag-and-drop materials, lighting and cameras into your scene in minutes to achieve desired results with accurate texture and reflection.

#### Product Template Studio Author

Can add a user-defined inter-face to any parametric model, which you can intuitively describe and package parametric models for later reuse

#### Advanced Convergent Modeling

Seamlessly work with mesh geometry in an integrated CAD workflow for Additive Manufacturing. Using this add-on, it becomes much easier to work with data from 3D scanners, polygon modelers, simulation software and topology optimization.

#### Variation Simulation Analysis

NX X Manufacturing includes Variation Simulation Analysis to design and validate geometric dimensioning and tolerancing with 3D tolerance analysis and variation simulation and assembly.

#### VSA Build/Simulate

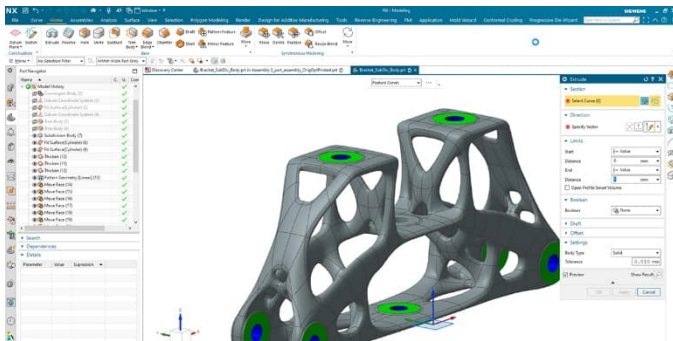
Set up and simulate the variation study by defining the part/assembly model, tolerances, distributions, assembly operations, and the measurement features to be used on a statistical simulation to review the outputs.

## Specialty Modeling for Manufacturing

NX X Manufacturing provides dedicated design workflows for key part manufacturing domains—supporting additive-ready part design, automating EDM electrode creation, enabling intelligent pipe/tube/cable routing with standard components, and delivering sheet metal-focused modeling with forming/bend definitions and flatten/reform tools for production-ready parts.

## Additive Design

This add-on includes capabilities that aid you in designing parts that are suitable for production using additive manufacturing or 3D printing.



## Electrode Wizard

Streamline the design and production of electrodes for electrical discharge machining (EDM). Automate and effectively design, validate, document, manufacture and manage the entire electrode development process from design to production.

## Mechanical Routing

Deliver routing capabilities for designing pipe, tube and cable runs. The routing tools also enable intelligent part selection and placement of standard components such as elbows and tees.

## Sheet Metal

Includes solid modeling tools that focus on design for manufacturing sheet metal parts. Manufacturers can create sheet metal component models using feature-based design tools for tabs, flanges and other features. You can define forming tables and bend sequence tables, and flatten and reform the solid model, considering material deformation properties.

## Drawings and Annotation

NX X Manufacturing provides tools to apply and manage 3D product manufacturing information including geometric tolerances and to create detailed 2D drawings/documentation for clear manufacturing and inspection communication.

## PMI

Using NX X Manufacturing PMI enables manufacturers to digitally author 3D annotation and product data as a solid part or assembly. PMI includes 3D dimensions, geometric dimensioning and tolerancing (GD&T) data, such as datums and feature control frames, 3D notes and customizable nongeometric information, which you can directly associate with an NX X Manufacturing model.

## Drafting

Drafting automates and streamlines engineering drawing production. Drawings are associative to models, so model changes automatically update and are reflected in related drawings.

## Data Management and Collaboration

### Data Management

NX X Manufacturing includes built-in data management to manage part manufacturing data such as NC programs and the models associated with the CAM setup. Leveraging value based licensing, manufacturing can expand their functionality with the following:

### Multi-user Notification

Using NX X Manufacturing Multi-User Design and Manufacturing Notification to leverage a collaborative design to manufacturing environment. This module enables proactive notifications of changes in your design or CAM setup context.

### Teamcenter Classification Integration\*

Access reuse libraries directly inside NX to search, select, and reuse classified parts/components without leaving the NX environment.

### Order Management

#### Order Manager

Centralized hub for manufacturers to manage customer requests, quotes, and orders through end-to-end manufacturing workflows.

### Virtual Reality

#### Immersive Explorer

NX X Manufacturing Immersive Explorer lets you review designs and NC programs in desktop or VR, using tools like notes, measure, sectioning, and snapshots to help teams spot issues and gain insights faster.

#### Immersive Collaborator

Collaborate in real time within a shared immersive space. With NX X Manufacturing Immersive Collaborator, you can realize more effective product reviews and achieve immediate input and validation from anywhere in the world.

## Manufacturing Foundation

### 5-axis Milling

5-axis milling provides extensive capabilities for simultaneous multi-axis cutting of complex surfaces, including multiple drive methods with a wide range of tool axis control options. 5-axis surface contouring and a set of tool axis interpolation options facilitate 5-axis machining on the most demanding of parts.

### Contour Profile

A 5-axis contouring operation that drives the tool along selected curves/edges while using the tool's side (flute) to cut, keeping the tool oriented to the wall. In NX X Manufacturing, it's commonly used for accurate wall finishing and trimming on complex geometry while managing tilt to avoid collisions and maintain consistent engagement.

### 5 Axis Deburring

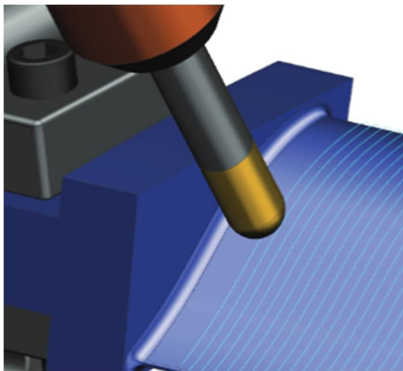
A multi-axis operation that orients the tool to follow edges and remove burrs consistently on complex geometry. In NX X Manufacturing it helps maintain proper contact/angle around 3D edges, intersections, and hard-to-reach features.

### Tilt Tool Axis

NX X Manufacturing invokes automatic tilt as a reaction to tool holder collisions in deep cavities. Tilting the tool over to provide clearance for the holder facilitates cutting with shorter tools and higher feed rates.

### Surface Milling – Variable Axis

5-axis surface milling approach where tool orientation changes smoothly as it moves over the part. In NX X Manufacturing it's ideal for freeform surfaces, allowing collision avoidance and more consistent contact while maintaining surface quality.



### Sequential Milling

A process-ordering approach that machines features/regions in a defined sequence to improve efficiency and consistency. In NX CAM it's used to control the cut progression (e.g., region-by-region or feature-by-feature) to reduce air cutting, tool changes, and variation.

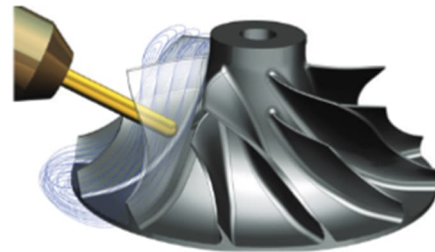
### Barrel Wall milling

A finishing method using a barrel (or conical barrel) tool to machine walls with a larger effective radius than a standard ball end mill. In NX X Manufacturing it can achieve equivalent finish with fewer passes, reducing cycle time on steep or near-vertical walls.

## Specialty CAM Programming

### Multi-axis Blade Programming

You can leverage NX X Manufacturing turbomachinery milling to reduce programming effort by applying 5-axis NC programming functions configured specifically for machining multibladed, multi-axis rotational parts. Blades can be curved with undercuts. In addition, multiple splitters are supported.



### Automatic Tool Axis Control

Designed to control the tool axis while machining a contoured surface in Surface Area Drive Method. It provides an automatic tool axis control that varies dynamically while the cutter is traversing the surface to be machined by matching the curvature of the surface with the curvature created by the side of the cutter.

## Robotic Programming

NX X Manufacturing Robotics Programming software lets you design, simulate, validate, optimize and offline program your industrial robots for machining-type tasks. This solution greatly increases the efficiency and quality of these high-precision, multi-axis robotic operations. Featuring the intuitive and widely-accepted NX software 3D environment, the software combines the simplicity of CNC programming with the power to accurately create, control and simulate complex robotic machining processes.



### NX X Manufacturing Robotics Programming

NX X Manufacturing Robotics Programming supports these use cases by synchronizing the robot with the positioner and controlling its motion pattern. A positioner can rotate to a constant angle and maintain that angle along the entire process, or rotate continuously to keep the tool angle throughout the process.

### NX X Manufacturing Robotics Post Processing

Production-ready output that does not require any manual modifications is the key to shortening planning cycle time and increasing productivity. The standard postprocessing mechanism of NX CAM generates the robotic program. Available posting modules for ABB, Kuka (KRL), ABB (Rapid), Fanuc (RJ TPE), Yaskawa, Staubli VAL, Nachi Slim, Kawasaki, and Siemens' Sinumerik 840D controllers can be used to generate standard programs on these common controllers. The new NX CAM Post Configurator enables you to adjust and fine-tune the posting process according to other requirements, company standards and preferences.

## Multi-Axis Additive

NX X Manufacturing provides a focus on programming advanced additive toolpaths—fixed-axis and multi-axis/robotic deposition—to build, coat, or repair parts on planar, rotary, and complex freeform surfaces. It includes strategies for thinwall and buildup along with machine-ready post processing to run the paths accurately on a wide range of additive equipment.

### Planar & Rotary Additive Operations

Provides dedicated operations to deposit material on flat planes (planar) or around an axis (rotary) for parts on turntables or rotating fixtures. Useful for consistent build strategies on cylindrical or axisymmetric geometries.

### Freeform Thinwall, Buildup, Coating, Merge

Enables freeform deposition strategies for thin walls, volumetric buildup, and surface coating/cladding on complex shapes, including tube-specific thinwall patterns. "Merge" supports combining/continuing paths to reduce stops/starts and improve bead continuity.

### Tube Additive Buildup

Creates deposition paths optimized for building up material on tube/cylinder geometries, often leveraging rotary motion to maintain steady bead formation. Ideal for repair, reinforcement, or adding features around tubular parts.

### Gradient Freeform Buildup

Produces freeform buildup where deposition parameters can vary gradually across the toolpath (e.g., bead size/spacing) to control thickness and transitions. Useful for smooth material build transitions and more uniform final stock.

### Curve Additive Buildup

Deposits material by driving the bead along defined curves, allowing feature creation or reinforcement that follows a designed trajectory. Common for ribs, edges, weld beads, or localized build-ups that track a curve.

### Point Welding

Drives discrete point-based deposition/spot weld events rather than continuous beads. Used for tack points, localized joins, or applications where controlled spot placement is required.

### Conical Additive Buildup

Generates deposition specifically around conical or tapering surfaces, maintaining consistent bead placement as diameter changes. Helpful for tapered repairs, bosses, or conical features where uniform coverage matters.

### Planar/Freeform Additive Fixed Axis

Supports additive toolpaths with a fixed tool orientation (no active tool-axis changes), using standard 3-axis motion for planar or freeform deposition. Best for simpler setups where the deposition head stays normal/constant while the path follows the surface or plane.

### Fixed Plane Additive

NX X Manufacturing provides a focus on preparing and programming layer-based additive builds with a single, fixed build direction (typically powder bed), including basic supports, build layout (nesting), part identification marks, and export through OEM/neutral build processors to generate machine-ready build files.

### Fixed-plane Additive with Basic Supports

Programs powder-bed builds with a fixed Z build direction, generating slice-based toolpaths and simple support structures. Intended for standard PBF workflows where the part is built layer-by-layer in a single build orientation.

### Siemens Nester

Optimized nesting of multiple parts on a build tray can dramatically increase the efficiency of additive manufacturing. Metal parts can be quickly positioned and arranged in arrays using interactive assembly tools. The layout of the parts on the build tray can minimize the use of support structures so you can reduce the necessary finishing of the printed parts.

### Print Marks

Adds identifiers/markings geometry (e.g., text, serials, orientation marks) to parts or the build plate for traceability and shop-floor handling. Useful for production tracking and post-build sorting

### Build Processor for Cura

Exports NX builds/toolpaths into a Cura-compatible format/workflow so Cura can be used for printing/slicing execution. Bridges NX build preparation with Cura-based printer ecosystems.

### Build Processor for Multi-Jet Fusion Printers

Outputs build data tailored for HP-style Multi Jet Fusion workflows, packaging geometry and build instructions in the format expected by MJF systems. Supports consistent transfer from NX build prep to MJF execution.

### Build Processor for Arcam

Generates machine-ready build output for Arcam EBM systems, aligning NX build prep with Arcam's expected file structure and parameters. Used for electron-beam powder-bed metal printing workflows.

### Build Processor for Siemens

Produces build output for Siemens-integrated or Siemens-controlled additive environments (machine/controller specific). Ensures NX build prep translates to the Siemens target format and settings.

### Build Processor for Reichenbacher

Exports additive build instructions formatted for Reichenbacher machines/systems. Focused on correct kinematics, setup data, and output packaging for that OEM workflow.

### Build Processor for SLM

Outputs build files compatible with SLM Solutions powder-bed metal printers. Helps carry orientation, supports, and build settings from NX into the SLM execution environment.

### Build Processor for Trumpf

Produces build output formatted for TRUMPF additive systems. Ensures the NX-prepared job is translated into the TRUMPF-required build file/package.

### Build Processor for EOS

Exports EOS-compatible build data for EOS PBF systems, transferring build prep (orientation/support intent) into EOS workflows. Used to streamline handoff to EOSPRINT/EOS execution chains.

### Build Processor for Renishaw

Generates Renishaw-ready build output so the NX job can be executed in Renishaw's additive workflow/tools. Helps preserve key build prep decisions through the export.

### Build Processor for CLI

Exports in CLI (Common Layer Interface), a neutral, layer-based additive format widely used for sliced build data exchange. Useful when you need a standard interchange format rather than an OEM-specific one.

### Build Processor for Farsoon

Outputs build files tailored for Farsoon additive machines, translating NX build prep into the format and structure Farsoon expects. Supports smooth handoff from NX to Farsoon execution software.

## On Machine Probing

The NX X Manufacturing On-Machine Probing module provides comprehensive measurement technology to optimize the manufacturing process and improve workpiece quality. Monitor all critical machine and process parameters that affect performance, detect process variations, and adjust machining parameters using NX CAM. Using the on-machine probing capabilities, companies can stabilize the manufacturing process, improving standardization and first-time yield

### OMP Author

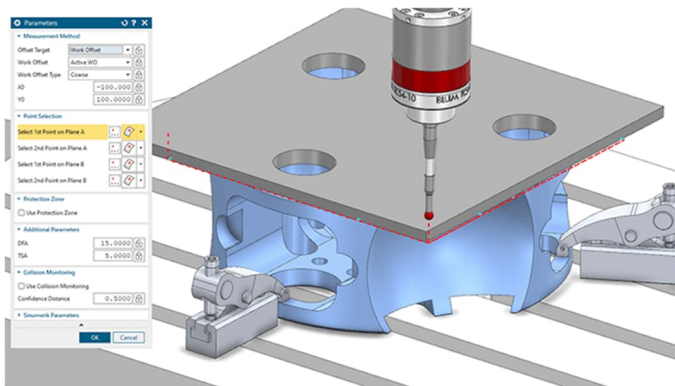
The programming capability in NX X Manufacturing to create and configure probing sequences, including what to measure, the probing strategy, and how results should be reported or used. It defines the probing logic within the CAM plan.

### OMP Execution

The runtime capability that outputs/uses the proper probing code and integrates results (e.g., work offsets, tool offsets, pass/fail checks) during NC execution. Enables closed-loop updates and verification while the job runs.

### Controller Cycles (Sinumerik, Heidenhain, Fanuc, Mazak, Mitsubishi, Okuma, Haas):

Built-in support to output probing and machining cycle calls in the native format expected by major CNC controls. Ensures NX CAM posts and runs probing/macro cycles consistently across different controller families.



## Coordinate-Measuring Machine (CMM)

The NX X Manufacturing CMM Inspection Programming add-on software tool provides the full coordinate measuring machine (CMM) inspection capabilities when combined with a combination NX X Manufacturing tokens

### Inspection Programming & Analysis

With the data analysis capabilities in NX CMM, you can quickly see and evaluate your “as-built” measurements in a graphical environment, right next to the “as-designed” models that drive your CMM inspection programs. Putting the measurement results into context helps you find the most effective approaches to achieve quality improvements.

### Inspection Execution

CMM Inspection Execution enables the inspection and analysis of parts on the shop floor by running the DMIS programs produced by NX CMM Inspection Programming. It supports over 30 CMMs (all major vendors) and NC machine tools, performs online execution of inspection processes, and reviews analysis results of measured features in real time. Results are presented in a customizable HTML or PDF format.

## Productivity

### Artificial intelligence (AI)

#### Part Manufacturing Copilot

Ask natural language questions, access detailed technical insights and streamline complex part manufacturing tasks to program faster and smarter with less errors and rework.

#### AI Make Machining Suggestion

Intelligent automation for optimized manufacturing processes. Transform single-face selection into complete machining processes instantly with personalized suggestions based on historical machining data.

#### Feature Based Machining Author

NX X Manufacturing lets you define and manage machining features (holes, pockets, slots, etc.) and their attributes so NX can automatically drive feature-based machining, standardizing programming and speeding up NC creation.

## Productivity

### Simulation and Verification

The machining simulation capability provides a 3D model-based visualization of planned machining operations. NX X Manufacturing facilitates multiple levels of simulation from a basic toolpath verification to a full machining simulation that includes a complete machine tool model. Collision checking and multichannel synchronization are simulated at the g-code level for the most accurate results. With NX X Manufacturing, you can perform machine simulation right from the programming environment so information is at hand when you need it, avoiding the requirement for a separate machining simulation package for the NC programmer.

### Post Configurator - Full

Enables full postprocessor development—letting you create and completely modify posts in the Post Configurator UI, including Tcl-based customization (plus options like protecting/encrypting posts) for supported CNC machines/controllers.

### NX Machine Tool Simulation with CSE

NX X Manufacturing drives the machine simulation with postprocessed output that takes account of any program content provided by the postprocessor. Home positions, special tool change motion and other content can be inserted by the postprocessor; this minimizes surprises by making sure to simulate the posted g-code.

### Synchronization Manager

NX helps shrink cycle times for multichannel machines (multiple milling or drilling heads on the same machine) by optimizing synch codes. The visual system displays timelines and simulates multichannel motion to ensure that minimum cycles are achieved without interference.

### Smart Machine Kits (SMK)

Cloud-delivered, production-ready CNC machine “digital twin” packages—including the machine kinematics/model, postprocessor, and G-code—driven simulation—downloadable via Post Hub to generate accurate, machine-specific NC output faster. Varies by machine type (2.5, 3, complex, additive SMK)

## Production Line Planning & Design

Machine Line Planner is an NX manufacturing planning application used to design, lay out, and validate machine-tool production lines by placing resources in 3D, checking space/clearance and interference, and optimizing the overall line arrangement for efficient manufacturing flow.

### Machine Line Planner Setup

Sets up the environment, libraries, and configuration needed to build and validate machine line layouts.

### Machine Line Planner

Plans and optimizes machine-line layouts by placing resources, checking clearances, and validating the overall arrangement.

### Machine Line Planner Solid

Extends line planning with solid/3D layout methods for more detailed space, interference, and placement validation.

