

## BEACON Newsletter - February 2025

### **NC Shop Floor Programmer for Machining on the 3DEXPERIENCE Platform**

**New in 2025, NC Shop Floor Programmer is included for all 3DEXPERIENCE SOLIDWORKS and SOLIDWORKS with cloud services.** NC Shop Floor Programmer is the entry-level role for machining on the 3DEXPERIENCE Platform.

Noted: After updated to 3DEXPERIENCE R2025x on the 11/16/2024, users with 3DEXPERIENCE SOLIDWORKS and SOLIDWORKS with cloud services will have this role, NC Shop Floor Programmer.



NC Shop Floor Programmer is the foundation of DELMIA CAM offers, enables users to **program advanced 2.5-axis milling machines, 3- axis milling machines, and 2- / 4- axes wire EDM machines** to create 3D parts.

NC Shop Floor Programmer provides a full set of features for workpiece setup, cutter tool assembly and toolpath simulation that include material removal, machine- tool simulation and NC code generation. NC programmers can capture and leverage enterprise intellectual property and collaborate with other stakeholders as they develop, validate, and optimize NC programs.

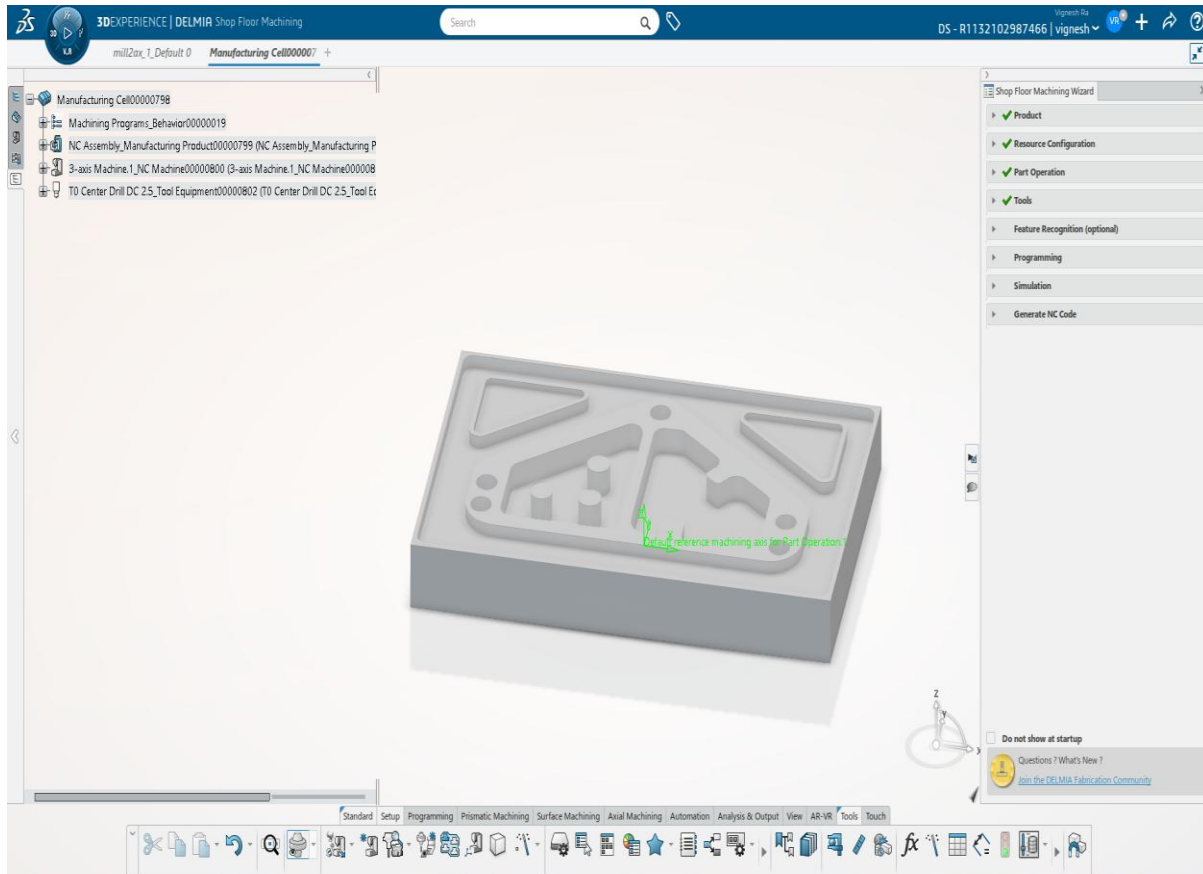
The NC Shop Floor Programmer role includes the following apps:

 < NC Shop Floor Programmer
 

 <b>Bookmark Editor</b> <span style="float: right;">▼</span>	 <b>Change Execution</b> <span style="float: right;">▼</span>
 <b>Collaborative IP Management</b> <span style="float: right;">▼</span>	 <b>Collaborative Lifecycle</b> <span style="float: right;">▼</span>
 <b>Data Setup</b> <span style="float: right;">▼</span>	 <b>Design IP Classification</b> <span style="float: right;">▼</span>
 <b>Exchange Management</b> <span style="float: right;">▼</span>	 <b>Laser &amp; Waterjet Cutting</b> <span style="float: right;">▼</span>
 <b>Manufacturability Check</b> <span style="float: right;">▼</span>	 <b>Manufacturing Context Builder</b> <span style="float: right;">▼</span>
 <b>Manufacturing Finder</b> <span style="float: right;">▼</span>	 <b>Product Finder</b> <span style="float: right;">▼</span>
 <b>Product Structure Design</b> <span style="float: right;">▼</span>	 <b>Shop Floor Machining</b> <span style="float: right;">▼</span>
 <b>Simulation Finder</b> <span style="float: right;">▼</span>	 <b>System Finder</b> <span style="float: right;">▼</span>
 <b>Wire EDM Machining</b> <span style="float: right;">▼</span>	

## Shop Floor Machining

Shop Floor Machining app enables users to define 2.5 axis and basic 3 axis milling operations, used to create G- code output, for the machines to manufacture the parts.



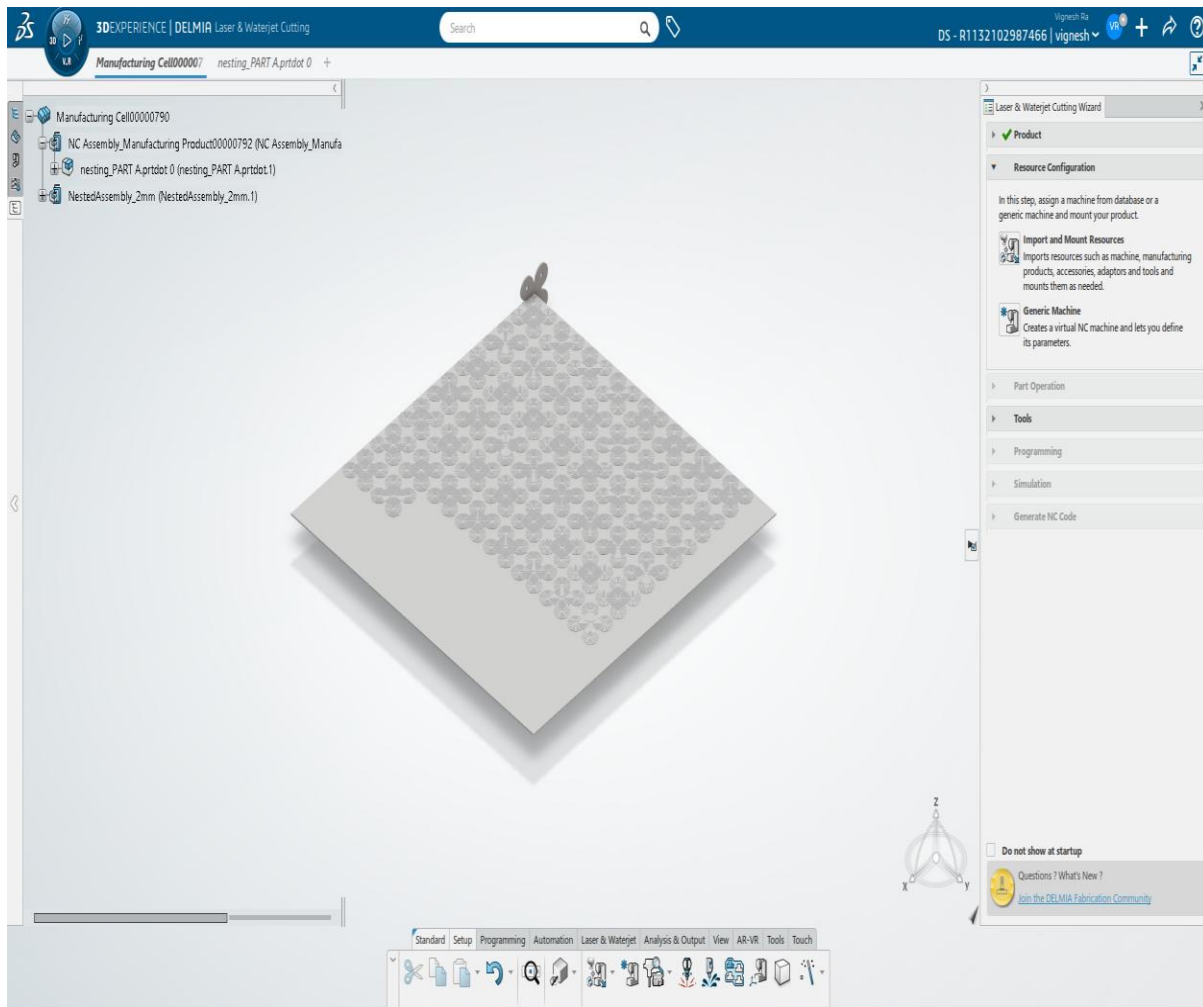
Shop Floor Machining include capabilities such as:

- A simple and intuitive CAM product for quick machine programming
- Covers 2.5 axis and basic 3 axis machining workflow to program simple parts
  - Prismatic Machining: Profile contouring, facing, pocketing, curve following, point to point, and probing
  - Axial Machining: drilling, spot milling, boring, T slotting, tapping, and thread milling
  - Surface Machining: roughing, sweeping, Z level, advanced 3axis finishing, and deburring
- Store company know-how to quickly create new programs
- Validate NC Programs in 3D to detect and prevent possible defects in the machining environment
- Lead industry 4.0 digital transformation using cloud-based strategies

DELMIA Nesting is also included with Shop Floor Machining, allow you the ability to nest multiple parts from SOLIDWORKS or 3DEXPERIENCE Platform, and process at once to reduce time.

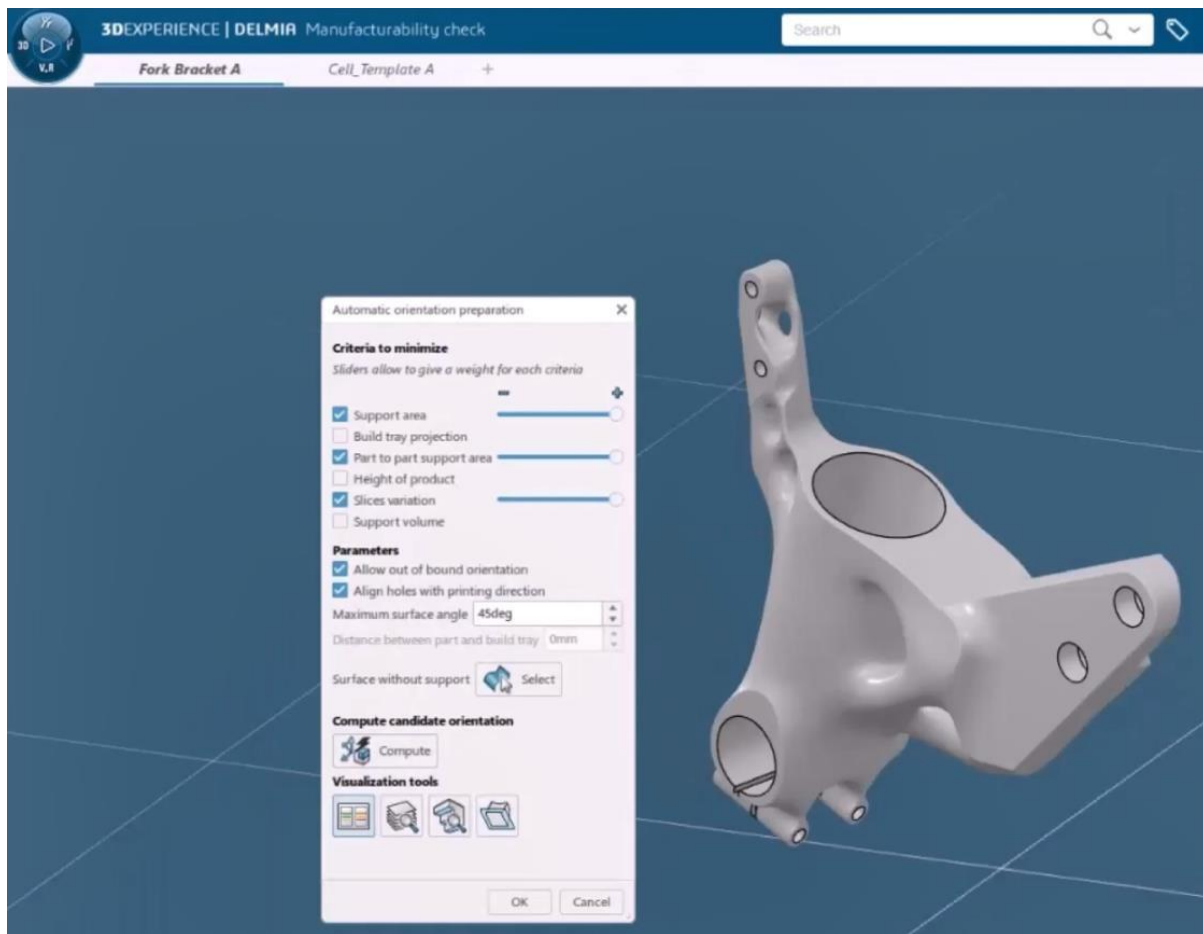
## Laser s Waterjet Cutting

To go along with nesting, Laser C Waterjet Cutting provides all the tools required for programming and simulating laser and waterjet cutting operations. Both laser and water jet techniques are cutting processes that result in a cut edge. They can cut any type of materials and provide fast and accurate cuts.



## Manufacturability Check

Manufacturability Check lets you analyse the geometry of a product that you want to manufacture. That way you can evaluate its feasibility according to your resources and define whether it is better to opt for an additive or subtractive fabrication method.

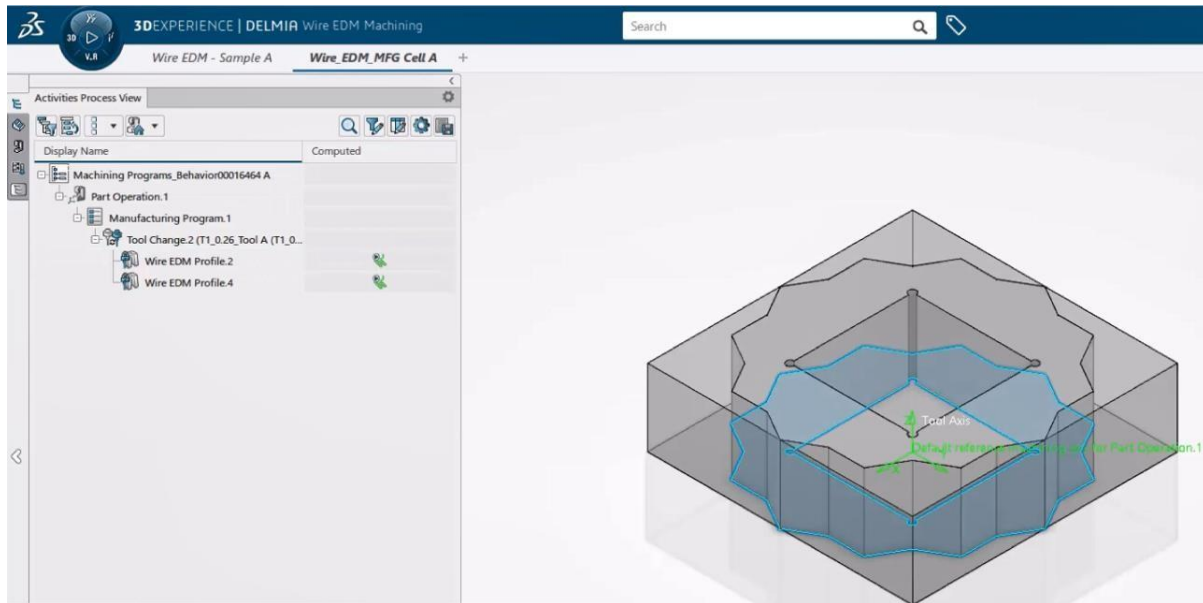


Manufacturability Check includes the following capabilities:

- Define whether a given product is more suitable for an additive or subtractive manufacturing process.
- Check if the available resources are suitable to manufacture the product.
- Specify an orientation in which to print a given part.
- Display quickly the areas where support is required.
- Estimate the cost and time of the project.

## Wire EDM Machining

Wire EDM Machining lets you program and simulate Wire EDM Machining machines to produce part operations for complex parts and precision components out of hard conductive materials. Users can implement 2- and 4-axes programming capabilities with dedicated wire EDM strategies, visualize and validate their program strategy, then produce the machine code.



## NC Shop Floor Programmer Highlights:

- **A Setup Wizard and an immersive, context-based user interface**  
A toolpath creation wizard and context-based menus are available for a quick 3D setup and creation of the NC toolpath.
- **Automatic association of prismatic machining features with part design**  
Automatically recognizes the prismatic machining features of the product design, significantly reducing toolpath programming time.
- **High-end strategies from roughing to finishing for 3-axis geometry**  
Prismatic machining strategies support the efficient creation and validation of parts for 2.5 axis operations and probing cycles. High speed milling technology shortens machining time, while delivering higher surface quality.

➤ **Quick toolpath verification and editing**

Toolpath replay allows the generation and verification of individual operations or of the complete program.

➤ **Advanced simulation capability**

Powerful simulation capabilities for toolpath validation bring one of the most advanced machine simulation modules to the market to identify potential issues early in the process.

## **NC Shop Floor Programmer Benefits:**

### **Reduce NC programming time**

Simplified new user interface with more intuitive graphic dialog boxes focus on the most important parameters C strategies. When NC programs are authored or edited, NC Shop Floor Programmer takes into account the machine tools kinematic definition. Tool changes and machine rotations are automatically generated and can be visualized in the machining operation definition panel.

### **Maximize machine tool utilization**

NC Shop Floor Programmer's wide range of operations and strategies helps programmers create toolpath programs that minimize non-value-added motion. NC Shop Floor Programmer considers in-process parts to generate collision-free toolpaths.

### **Mitigate risk to production**

A 3D environment creates optimized NC programs in the manufacturing context: NC machine, cutter, tool assemblies, NC accessories and other elements. This provides a better understanding of the machining cell and ensures that the toolpath and machining strategy consider the tool's physical environment. It also reduces the risk of unexpected issues and production delays.

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