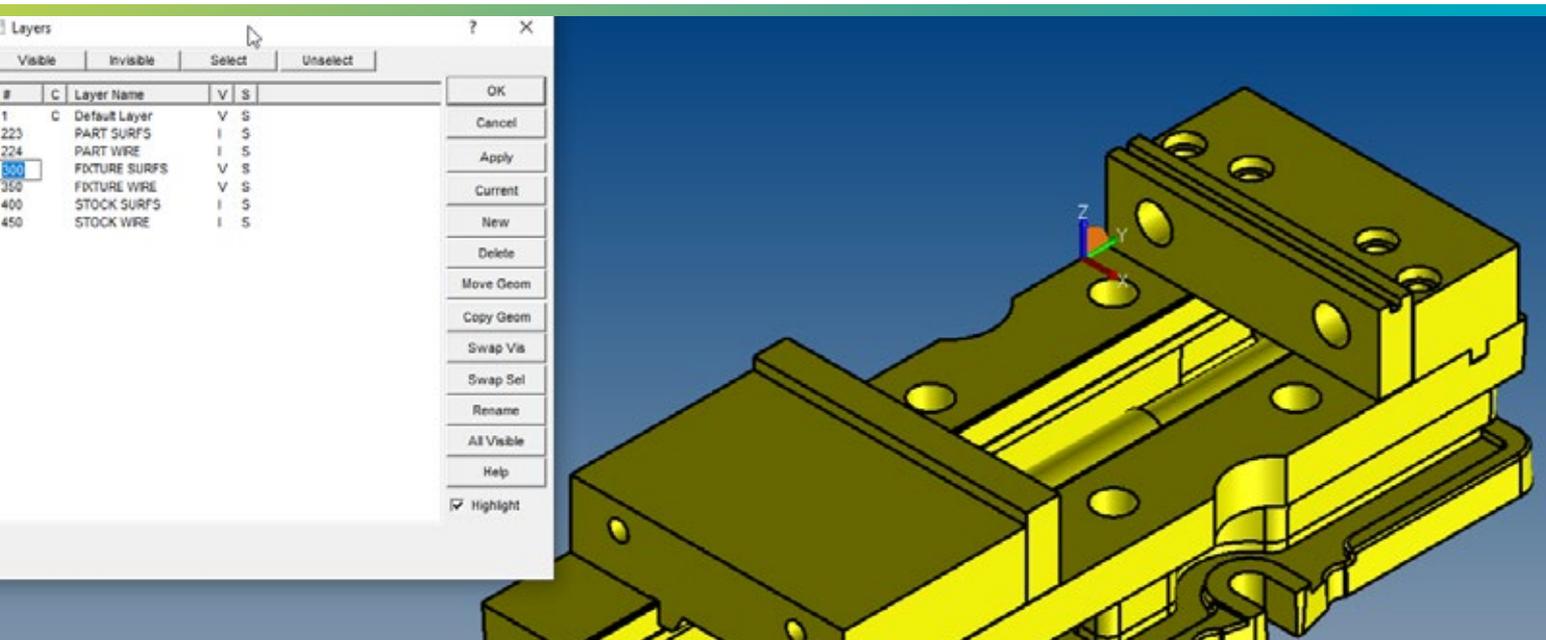


# Direct link to advanced machining simulation to help manufacturers improve efficiency

SURFCAM 2021 includes integration with NCSIMUL manufacturing simulation software to connect the virtual and real for greater flexibility and productivity

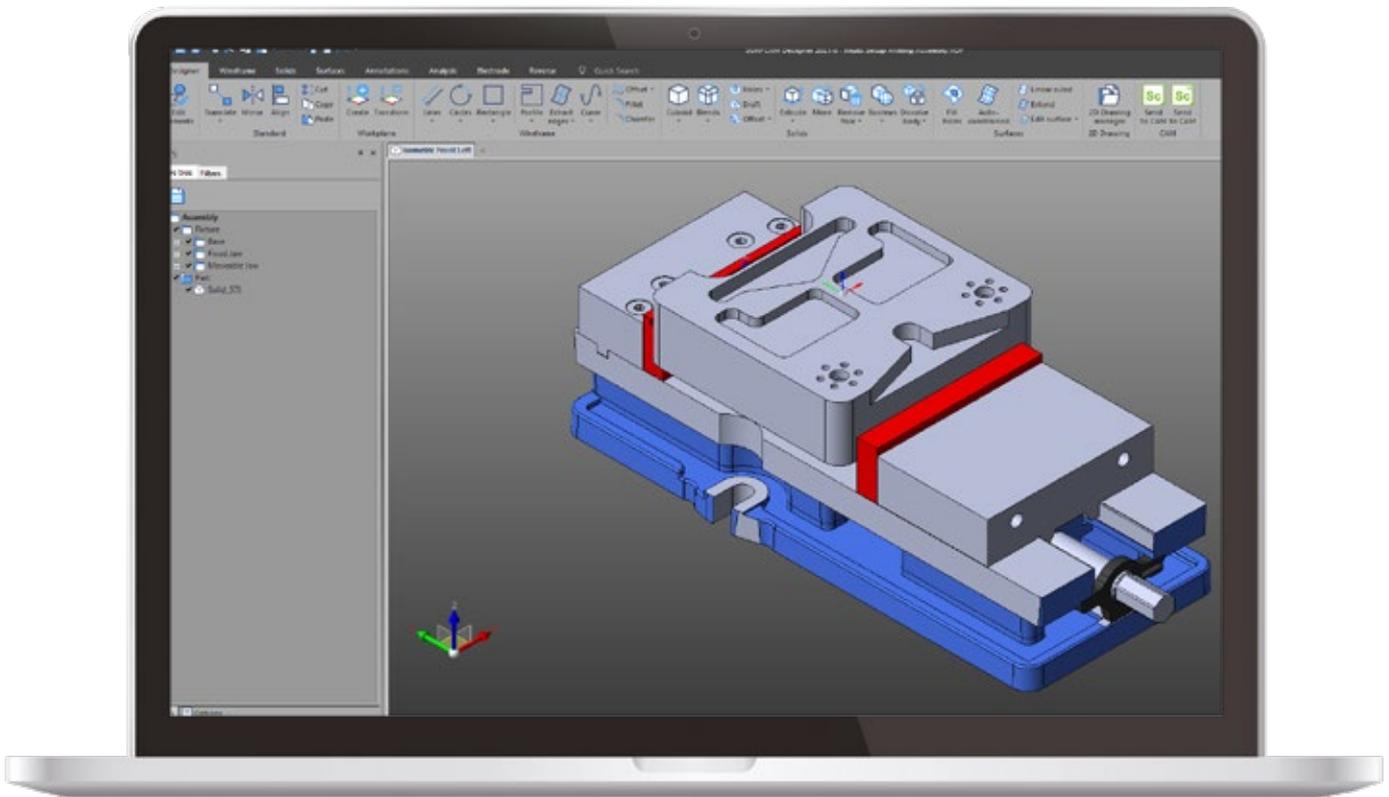


## SURFCAM 2021 release

The new version of SURFCAM Traditional computer-aided-manufacturing (CAM) software offers a direct connection to the NCSIMUL machining simulation solution by Hexagon Manufacturing Intelligence, a development that provides SURFCAM programmers with greater control over the manufacturing process by delivering a more accurate and detailed picture of each machining operation from start to finish.

SURFCAM Traditional is designed to provide manufacturers with robust, flexible, and easy-to-use programming capabilities for 2-5-axis machining, in addition to turning and wire-EDM programming functions. NCSIMUL machining-simulation software can be used in conjunction with a wide range of CAM systems to verify and optimize toolpath, quickly switch NC programs between machine tools, and simulate machining operations.

Page 1 image: New layer-based fixturing allows users to define the NCSIMUL part fixture on a single selectable layer.



Quickly take your CAD file from Designer to SURFCAM Traditional with the send to CAM feature in Designer

By using a direct link to NCSIMUL from within the SURFCAM Traditional 2021 interface, SURFCAM users will have access to true G-code toolpath verification, editing and simulation functions to ensure that their NC programs are collision free and reflect the full CNC machining environment. This new associativity between the two systems also enables users to compare cut stock with original design geometry.

The ability to view the state of the stock model throughout the machining process, including multiple operation parts or multiple part setup, provides machinists with the flexibility needed to adjust operations when required to prevent errors.

“Creating a digital thread that connects the virtual with the real ensures that manufacturers can achieve greater productivity without sacrificing quality because they’re looking at accurate data throughout the entire manufacturing process,” said Machining Market and Product Manager Miguel Johann of Hexagon Manufacturing Intelligence.

“By using SURFCAM Traditional and NCSIMUL in tandem, users can pass the toolpath generated in SURFCAM — along with the part, fixture, and stock geometry — to NCSIMUL for G-code validation, toolpath verification, and a more detailed view of all operations.”

SURFCAM Traditional users can access NCSIMUL via the system’s operations manager, which lists set-ups for operations in the order they’ll be performed, as well as

relevant machining data for each operation. From there, users can view the part within the NCSIMUL interface in various modes, including wireframe, facet, shading and shape modes. Tooling, tooling sequences, and toolpath can be viewed and edited within that same interface.

The direct link to NCSIMUL also enables users to digitally add or subtract part stock, and adjust fixturing, clamps, and cutting-tool libraries. Access to detailed virtual set-ups remove guesswork by providing accurate digital twins of complete machining environments that can then be recreated in the real world.

“This version of SURFCAM Traditional is focused on our core users’ needs for general and advanced usage,” Johann said. “From beginner to expert, we are working to advance customer experience and usability.”

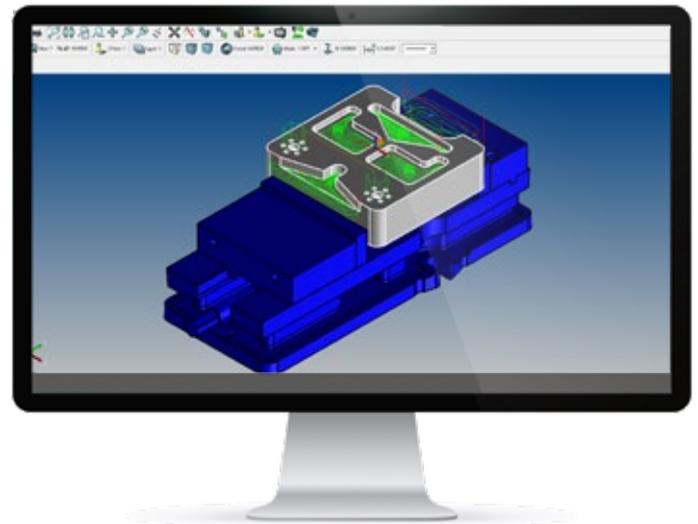
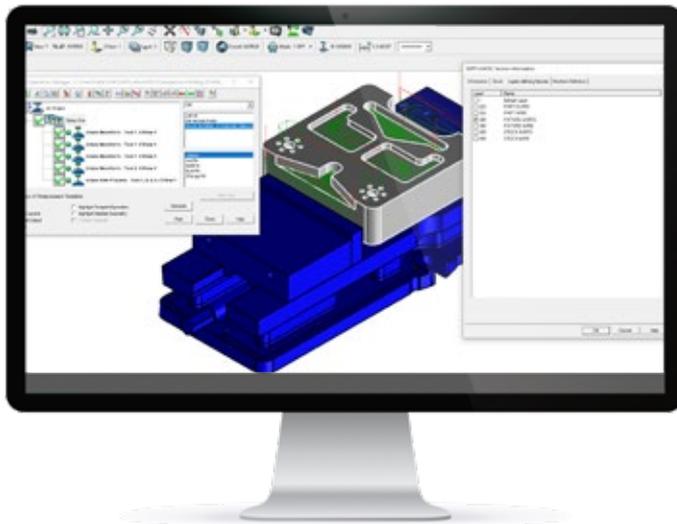
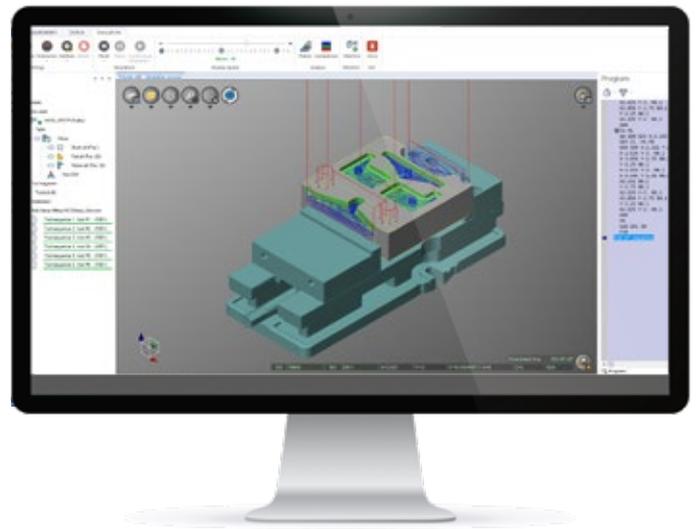
Additional enhancements available with the latest version of SURFCAM Traditional include the option for layer-based fixturing, which allows users to draw or import fixture geometry directly into the software instead of entering fixturing data numerically or via an external file.

With the new layering option, fixturing data resides on a set of layers defined by users, and the fixturing information is referenced during the toolpath-verification process. This improvement makes the management of fixturing data simpler and reduces opportunities for error.

Toolpath viewing capabilities have also been improved in the latest release, as toolpath can now be hidden with a single button click from the main toolbar. This new development saves time by simplifying the process of hiding toolpath for graphical clarity during the programming process.

Commitment to improving digital tools that reflect true-life manufacturing conditions remain critical to ongoing software development.

“Hexagon continues to deliver on the connectivity of its solutions, paving the digital highway for the real-life smart factory,” Johann said.



SURFCAM combined with NCSIMUL gives users multiple options to verify toolpath outputs to assure desired outcome





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Our technologies are shaping urban and production ecosystems to become increasingly connected and autonomous – ensuring a scalable, sustainable future.

Hexagon's Manufacturing Intelligence division provides solutions that utilise data from design and engineering, production and metrology to make manufacturing smarter. For more information, visit [hexagonmi.com](https://hexagonmi.com).

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