



HEXAGON
MANUFACTURING INTELLIGENCE

WORKNC

WORKNC 2023.1 - new enhancements

Send to WORKNC | Synchronizing DESIGNER and WORKNC & send from VISI
DESIGNER reads any CAD format and quickly prepares your geometry for manufacturing.

Now the Workzone can be synchronized with the CAD file (vdf). Once a change is validated in DESIGNER (e.g. a new part revision or adding optional geometry), the user is automatically notified in WORKNC or while opening the workzone.

WORKNC detects the relevant changes in the CAD file and recalculates what is necessary. "Send from VISI" is equivalent to the DESIGNER command "send to WORKNC" but without synchronization.

User experience | New ribbon bar

The user experience has been modernized and enhanced by adding a new ribbon bar to WORKNC.

These new options will increase efficiency and productivity. It will enable a shorter learning curve for new users as it operates as all other Windows applications.

Users now have direct access immediately available to their favourite toolpaths. The Quick Access toolbar also provides access to background functions.

Global roughing | Dynamic maximum holder profile

The maximum holder profile is the widest and most complex holder shape that can machine a particular area of the workpiece. At times programmers can find it difficult to predict the correct tool assembly for a given operation. This will reduce programming time and save money for standardising shopfloor holders.

Benefits include (a) fast and safe retrieve of the best holder suiting a given toolpath situation and reducing tool length, (b) flexibility to modify tool assembly on the fly to reflect shopfloor problematic, (c) reduce the variety of holders to buy, maintain and manage for each machine. Saving time in finding the best tool/holder combination is an innovation only available with WORKNC.

Global roughing | Tool life increase

WORKNC users called for toolpath considerations that increase tool life and reduce machining time.

WORKNC 2023.1 delivers with the introduction of a smoothing radius within the pocketing offsets with no extra programming.

This new capability is automatically calculated within the toolpath generation.

The addition of a radius has a significant positive effect on the cutting life of high-feed cutter inserts. It maintains a constant feed rate as much as possible.

This is implemented with a new lead-in material option with an "on-profile ramp". A 30% decrease in machining time was experienced in a recent milling test.

Contour remachining | Splitting steep and shallow areas

These options allow the user to split the toolpath into passes into steep or shallow areas, allowing for different speeds and feeds to be used to improve machining time.

This gives programmers more flexibility to adapt tooling better and enables tools to work more efficiently.

It provides better tool durability and surface finishing without adding any programming complexity.

The result is to save money but reduce tool consumption while providing better quality finishing when remachining is required.

Parallel finishing | Vertical walls and other improvements

Parallel Finishing (Z level) has significantly improved the management of vertical surfaces.

Some Z-Level passes are unnecessary in certain situations since they are not removing any material due to the undercut areas.

With WORKNC 2023.1, a new option has been added to Enable/Disable these Floating passes.

It is now faster and easier to program Z-Level toolpaths as users can avoid editing and additional toolpath or surface creation.

Curve profiling | Closing the gap

In keeping with our goal of simplifying WORKNC, we are consolidating "Tangent to Curve" and "Curve Remachining" and replacing both with "Curve Profiling". Surface selection is now available in the same way as in "Tangent to Curve". Handling of 3D curves is available, previously limited to 2D curves.

Better control of Lead-in and Lead-out with more efficient RAPID movements between passes where previously they were APPROACH movements. This modern algorithm speeds up calculation time and increases programming efficiency. Better control of Lead-in and Lead-out with more efficient RAPID movements between passes where previously they were APPROACH movements. This modern algorithm speeds up calculation time and increases programming efficiency.

3-axis finishing | 3D smoothing radius

WORKNC 2023.1 adds a new high-speed machining option to "generate rounded passes" to get higher-quality finishing. This option is available in 3D finishing, 3D drive curve finishing, Optimized Z-level finishing (spiral cycle only), Z level Remachining (contour optimization), and Contour remachining.

The 3D smoothing radius option leads to less hand polishing and results in considerable savings in labour time and speed of final part delivery.

NCSIMUL standard | Single interface to export a CAM project

NCSIMUL helps WORKNC customers to validate NC toolpaths on the shop floor.

NCSIMUL gives confidence to the machine operator by checking programs to avoid collisions and speed up machine cycle times.