HIGH SPEED 3D
G CODE VERIFICATION

INTERACTIVE & SMART CNC MACHINING SIMULATION
INCREASE PRODUCTIVITY

Zero raw material waste
Zero scrapped parts
Lights-out Machining
Eliminate prove out times
Use the right tools adapted to the toolpath & the machine
Decrease cutting tool costs
Increase tool life
Keep your machines from crashing
Reduce downtime & set-up time
Increase Overall Equipment Effectiveness

NCSIMUL MACHINE reduces your production costs
Virtualize your shop floor for more productivity
G-CODE VALIDATION IN 3 STEPS
PERFECT RESULTS WITH HIGH SPEED

3 STEP PROCESS
NO TIME LOSS. NO ITERATIONS

1. G-Code Analysis
   - G-code decoding
   - Full program verification
   - Interactive tool path visualization
   - Automatic error detection
   - Accurate estimate of cycle times

2. Motion Verification
   - Realistic simulation and material removal
   - Detection of machining errors/collisions (rapid/spindle stopped in material, clipped part set-up, etc.)
   - Probing macros included

3. Part Validation
   - Compare with the design model
   - Display gauged/excess material
   - Measure thickness, distance, drilling, etc.
   - Dynamic 3D section planes

NCSIMUL MACHINE verifies your G-code as if you were using your real machine
Automated, Digital & Easy-to-Use Process

Features

Easily integrated to your existing software system with CAM interfaces and tool management.

No machine is too complex. Simulation accounts for complete machine parameters:

• Initial positioning of the part on the table
• Clamp addition/removal during machining
• Part rotation/translation between 2 programs
• Manual tool mounting
• Operator data input
• Command validation
• Decodes G & M-codes
• Tool compensations (diameter, length)
• NC Controller logic
• Calculate cycle times (block by block or cumulatively)
• Machine kinematics
• Machine limits
• Maximum feed rate and the direction of each axis
• Spindle torque
• Axis acceleration/deceleration

Collaborate interactively with operators, customers & suppliers on your virtual machine environment- in real-time:

• Generate technical data sheets to communicate with the shop floor
• Share automatically 3D videos to be shared via computers or mobile devices

Capitalize on the digital workflow
AUTOMATED, DIGITAL & EASY-TO-USE

BENEFITS

Validate your parts offline
- Safe and collision-free machining
- No tool, head or spindle breakage
- Eliminate need for dry-runs
- Increase safety for machine operators

Speed up your part’s production
- Reduce set-up time
- Avoid CNC downtime due to crashes
- Prove out G-codes on your computer before machining
- Optimize production

Optimize resources and machining results
- Part machined correctly the first time
- Avoid waste of raw material
- Confidently run your machines unattended

10X faster G-code calculation
70% reduced Set-up times
100% safe Machines & Tools
“When I used NCSIMUL MACHINE for the first time, I was surprised just how easy it was to use […]”

“High-speed manufacturing has been one of the greatest strengths of our business, helping to produce higher-quality work and shorten turnaround times for our customers.”

“In addition to the time savings, NCSIMUL MACHINE has delivered other benefits: shorter manufacturing cycles and the ability to debug programs immediately after the NC programming phase.”