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
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**
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.”

BUILDING CONFIDENCE