

# CGTECH VERICUT®

```
(#107 = ABS Z DRILL DEPTH  
(#108 = CURRENT R VALUE, RAPID TOI  
(#109 = STEP VALUE)  
(#110 = CURRENT H VALUE, LENGTH OF  
(#111 = CURRENT G CODE, G90/91)  
(#112 = CUR  
(#113 = CUR  
  
(LOCAL VARIABLES)  
(#120 = TARGET DE  
(#121 = CURRENT  
(#122 = FEEDTO DETPH)
```

## Increase Efficiency with the NX-to-VERICUT Interface

```
(SUBROUTINE SETTINGS)  
#130=.5(DWELL FEED DEPTH)  
#131=1.2(FIRST P
```

```
(ASSIGNMENTS)  
#107=#26  
#108=#18  
#109=#17  
#110=#10001  
#111=#4003 (ABS/I  
#112=#9  
#113=#4119 (STORE
```

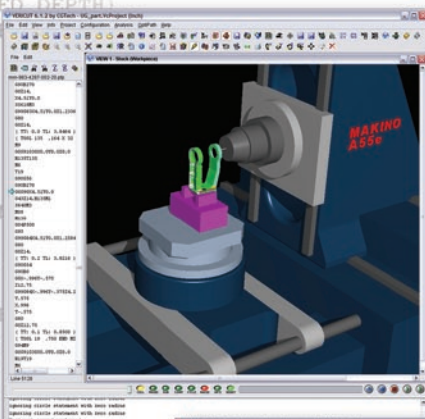
```
(STORAGE OF SYST  
#140=#4001 (STORE  
#141=#4109 (STORE  
#142=#5003 (STORE
```

```
(SET TARGET DEPT  
IF[#100 NE 1]GOTO10  
#120=#107  
GOTO11  
N10#120=#107+#130  
N11
```

```
(INITIAL POSITION)  
GOG90Z#108(SAFE CLEAR/RETRACT
```

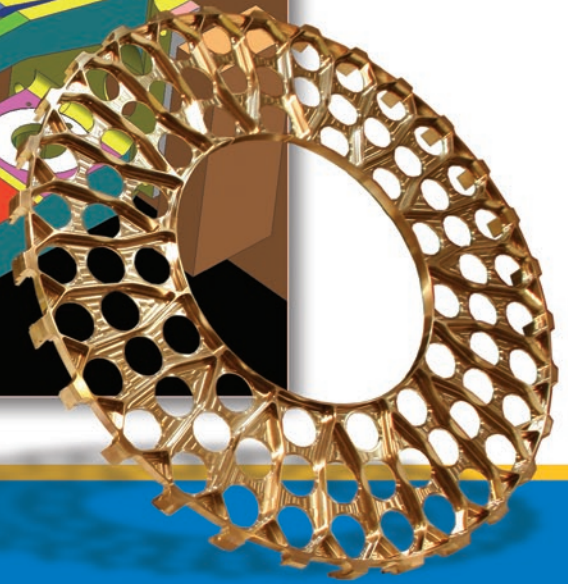
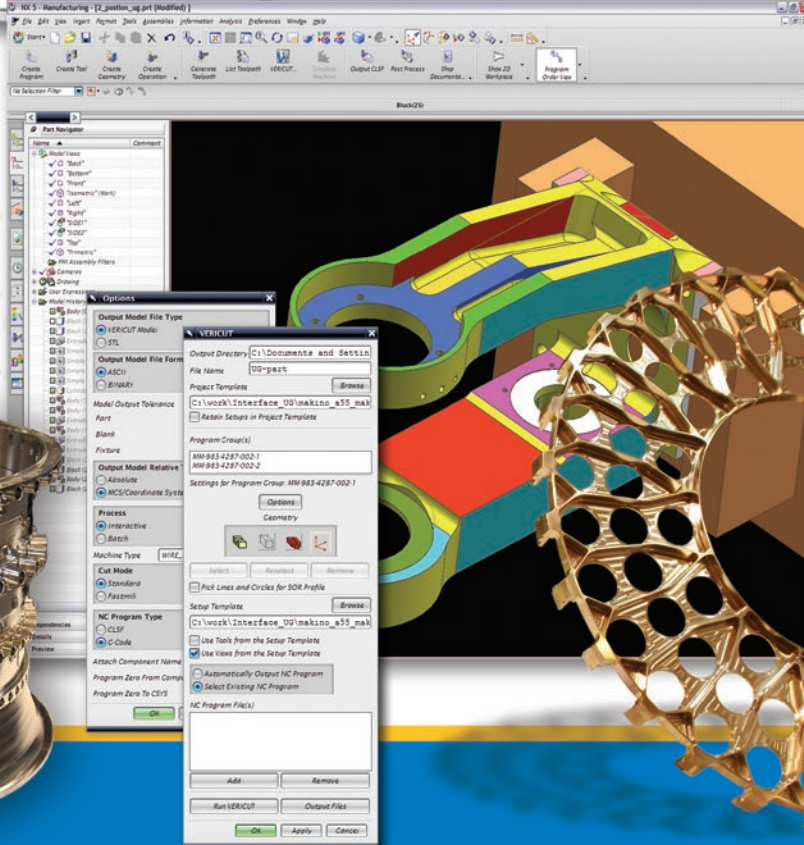
```
(FIRST PECK CYCLE)  
#121=[#108-#131*#109] (FIRST  
IF[[#108-#121] GE #120]GOTO11  
#121=#108-#120  
N110#122=#108-#121(CALC FEEDT  
G1Z#122F#112  
GOG90Z#108  
#121=  
IF[#1
```

```
(PECK  
N200  
IF[[#1  
#121=  
N210#1  
#122=  
GOG90  
G1Z#1
```



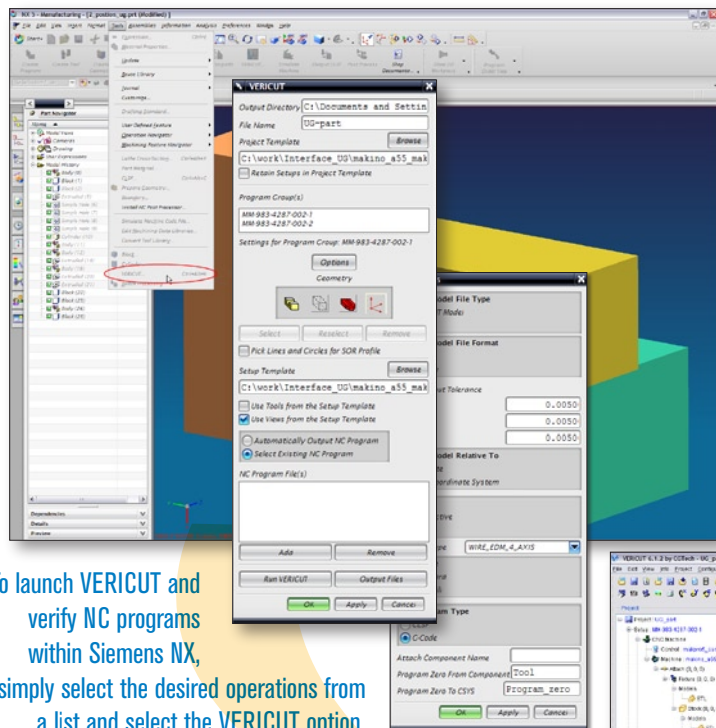
Integrate VERICUT into your  
Siemens PLM process and  
simplify setting up, simulating,  
and optimizing your NC programs.

## SIEMENS NX



# Seamless Integration with Siemens PLM Software

VERICUT is the world's leading INDEPENDENT CNC simulation software – used in nearly every industry by users of ALL leading PLM and CAM systems!



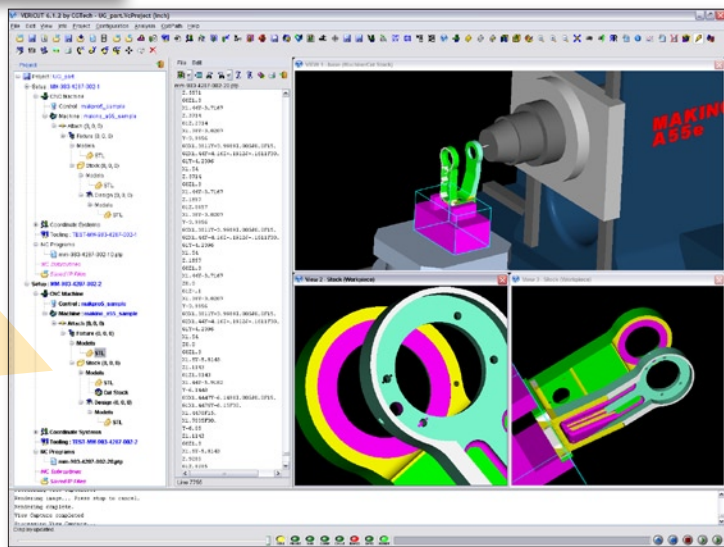
To launch VERICUT and verify NC programs within Siemens NX, simply select the desired operations from a list and select the VERICUT option. Settings from the Operations Navigator will be automatically transferred to VERICUT's Project Tree.

The NX-to-VERICUT Interface from CGTech provides an easy & convenient way to verify, optimize and analyze:



- individual NC programs
- a series of selected tool paths
- a complete sequence of operations...

directly from within Siemens NX!



## FAST AND EASY SETUP

With the NX Interface, NC programs are linked to manufacturing operations, enabling easy selection of tool path motion from the desired operation. All tool path and tooling information is automatically transferred to VERICUT. Design, Stock, and Fixture models are also automatically transferred to VERICUT in their proper orientation. The interface supports VERICUT's multiple setup functionality and, by using coordinate systems, models are properly positioned on the machine for each setup.

## VERICUT OVERVIEW

VERICUT simulates milling, drilling, turning, multi-tasking mill/turn, and EDM operations. Errors that could ruin the part, damage the fixture, or break the cutting tool are easily identified. VERICUT supports G-codes and native CAM files and includes analysis tools to measure and compare the cut part with the design model. You can model any cutter, fixture, or holder shape. During simulation you can create in-process inspection instructions and export a CAD model of the "as-machined" part.

- ELIMINATE MANUAL PROVE-OUTS
- REDUCE SCRAP AND REWORK
- TRAIN WITHOUT USING A MACHINE
- IMPROVE DOCUMENTATION AND PRESENTATIONS

## INDEPENDENT POWER AND FLEXIBILITY

The VERICUT process runs independent from the CAM system so you can continue working in NX while verifying the NC program.

CNC Machine Tool Simulation  
Multi-Axis Verification  
NC Program Optimization  
Inspection & Analysis

Go ahead...

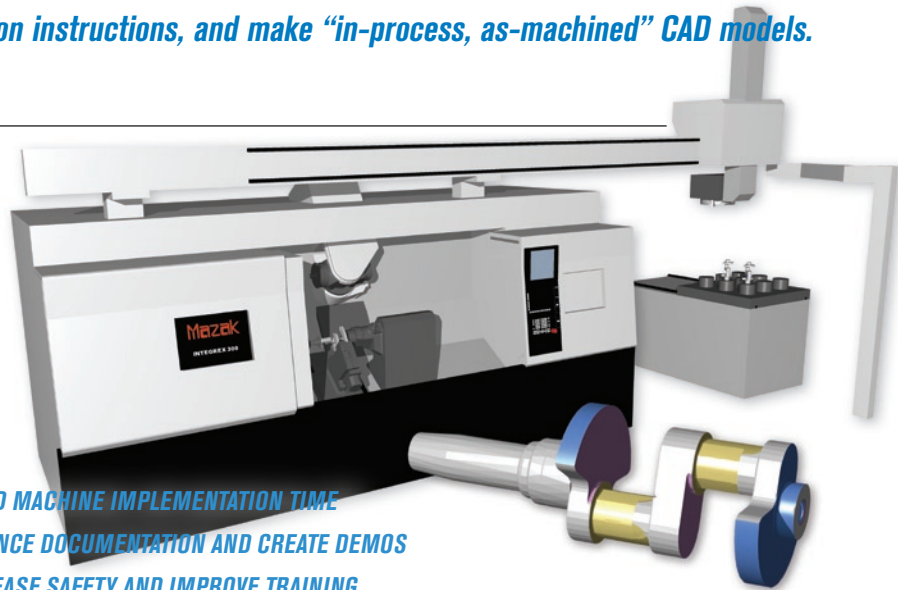
# CRASH Your Machine!

...as long as it's in VERICUT

VERICUT is the leading CNC simulation and optimization software for manufacturing! With VERICUT, you can: detect potential collisions and NC program mistakes without doing a prove-out, improve cutting efficiency, perform detailed part analysis, automatically generate inspection instructions, and make "in-process, as-machined" CAD models.

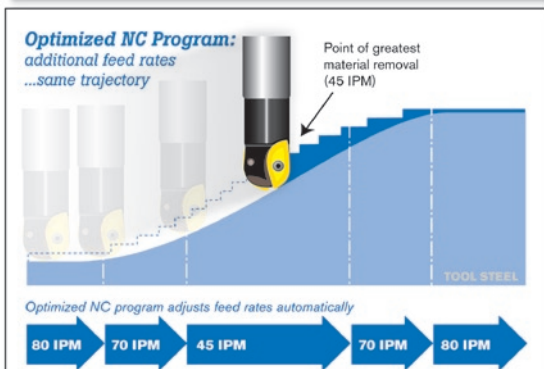
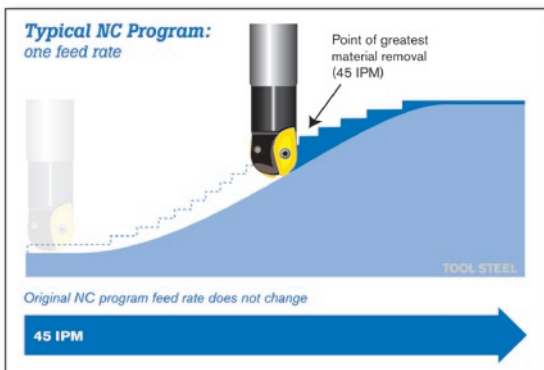
## CNC MACHINE SIMULATION

A single crash can be extremely expensive, ruin the machine, and delay the entire production schedule! VERICUT enables you to simulate your CNC machines so you can detect collisions between portions of the machine, the part, fixtures and holders, etc. before any actual cutting occurs. And, because the simulation is driven by the same logic as the machine's control, it behaves exactly like the physical machine and is the most accurate collision-checking available.

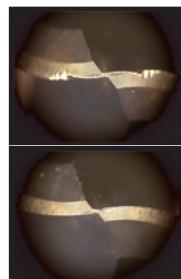


- ELIMINATE CRASHES AND CLOSE CALLS
- CHECK MACHINE CAPABILITIES
- IMPROVE PROCESS EFFICIENCY
- SPEED MACHINE IMPLEMENTATION TIME
- ENHANCE DOCUMENTATION AND CREATE DEMOS
- INCREASE SAFETY AND IMPROVE TRAINING

## NC PROGRAM OPTIMIZATION



Optimizing cutting speeds is an effective way to reduce cycle time, increase cutter life, and improve finish quality! Based on cutting conditions and tool capability, VERICUT automatically assigns the best feed rates for each cutting condition encountered. It works on a simple premise: feed rates increase for lighter cuts or better conditions, and decrease as more material is removed. Without changing the trajectory, the updated feeds and speeds are applied to a new NC program.



Before  
OptiPath

After  
OptiPath

- REDUCE CNC CYCLE TIME
- IMPROVE FINISH QUALITY
- REDUCE FEED RATE ADJUSTMENT
- MINIMIZE MACHINE AND CUTTER WEAR
- BE MORE COMPETITIVE, AND MORE PROFITABLE
- INCREASE PRODUCTIVITY, SPEED TIME-TO-MARKET

### How software optimization works:

As the cutting tool encounters more material, feed rates decrease; as less material is removed, the feed rates speed up accordingly. Based on the amount of material removed by each cut segment, OptiPath automatically calculates and inserts improved feed rates where necessary. Without changing the trajectory, OptiPath writes the updated feed rates to a new NC program.

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# CGTECH<sup>®</sup> VERICUT<sup>®</sup>

*CGTech<sup>®</sup> is the leader in CNC machine simulation, verification, and optimization software technology. Since 1988, our products have become the standard in manufacturing industry sectors including aerospace, automotive and ground transportation, mold and die, consumer products, power generation, and heavy industry. Today with offices throughout Europe and Asia, and a global network of resellers, CGTech software is used by companies of all sizes, universities, trade schools, and government agencies.*

*CGTech maintains an active Technology Partnership program. VERICUT users in this program include many of the world's leading machine builders, CAD/CAM developers, and manufacturing software companies.*

*VERICUT customer support is provided by a team of dedicated technical support engineers. Full training, implementation, and contract consulting services are available.*

***When you invest in VERICUT, you're not just buying a software program, you're teaming up with a manufacturing partner with the best reputation in the business!***

System requirements are subject to change. See the CGTech web site for the most up-to-date product information and system requirements.

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