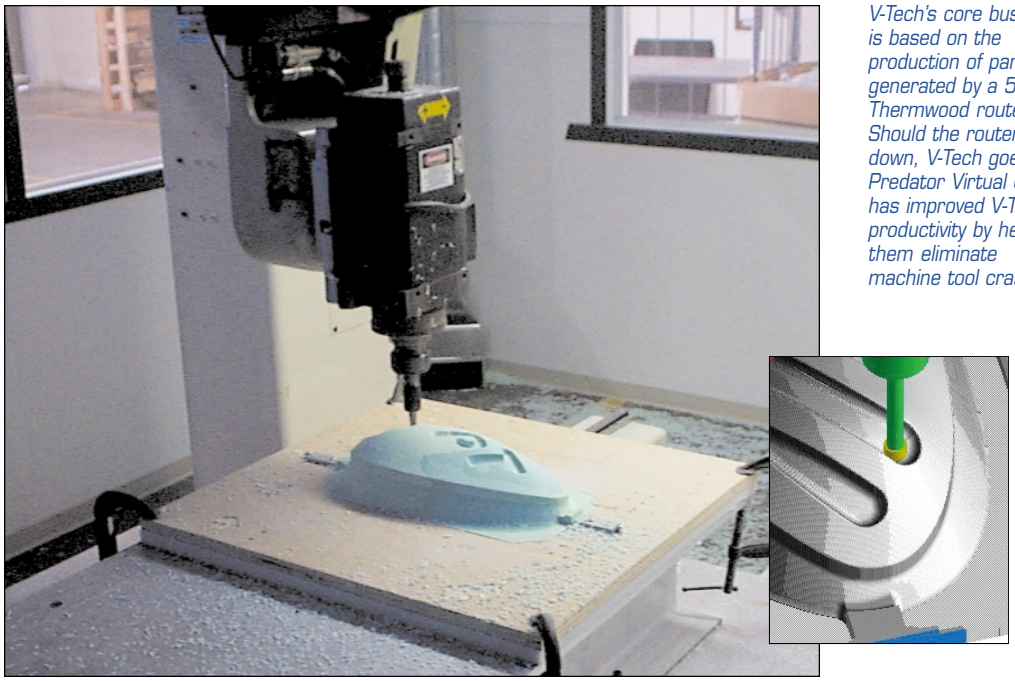
Predator PROFILE

V-TECH INC.



V-Tech's core business is based on the production of parts generated by a 5-axis Thermwood router. Should the router go down, V-Tech goes idle. Predator Virtual CNC has improved V-Tech's productivity by helping them eliminate machine tool crashes.

"Since we started using Predator Virtual CNC, we have not crashed the router a single time."

— Collin Hanson

Customer
V-Tech Inc.
Chico, California
- 25 employee manufacturer
- Produces custom taillight covers for automobiles
- Uses 5-axis Thermwood router

Challenges
- Avoid crashes
- Improve visual verification and proveout process
- Get new product out as fast as possible
- Utilize resources; make better use of stock on hand
- Verify multiple stock and fixture configurations
- Simplify CNC editing

Solution
Predator Virtual CNC

V-Tech Eliminates Machine Crashes with CNC Verification

Verification or Bust

Collin Hanson's bosses were surprised—even puzzled—that he would join them as their new CNC Programmer on the condition that they would invest in CNC verification software. But what was first thought of as an odd request has fast become a vital part of the thriving manufacturer's everyday production process.

It's Simple – Avoid Crashes

V-Tech Inc., of Chico, California, is one of the country's leading manufacturers of custom automobile taillight covers. In the past, CNC verification would seem like a luxury to the 25-person, one machine, design and production facility. But because their machining is limited to a single 5-axis Thermwood router, the one machine is even more essential to their production operations. If it goes down, business stops.

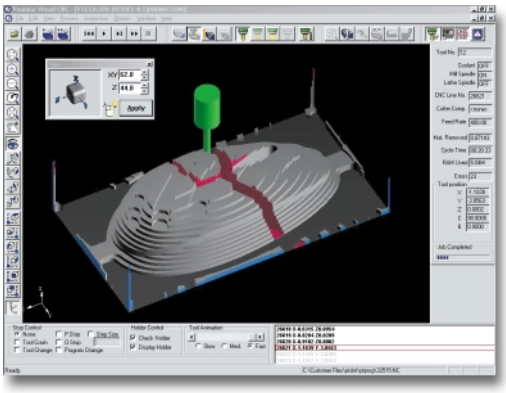
"If our router goes down, our production goes down," says Hanson, now chief programmer for V-Tech. "For each new model year, we generate two new part numbers per car—one for the right taillight, and one for the left. Getting the molds cut and to our thermoforming operation is essential to our production efforts. If our machine crashes, it means two days of downtime. When you consider that we produce an average of one new program a day, you can understand how two days of downtime is the last thing we can afford. Since we started using Predator Virtual CNC, we have not crashed the router a single time."

The ideal solution for V-Tech was obvious—avoid crashes.

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V-TECH INC.

To do this, V-Tech delivered on Hanson's request to make CNC verification part of their manufacturing process. Several key factors contributed to their choice of product. The product had to be easy to set up and use. It had to be compatible with their Thermwood CNC and integrate easily with their current CAM system. It also had to provide more than a nice part rendering. V-Tech needed accurate data that would show them where program errors occurred and what kind of errors they were. They needed detailed visual inspection options that could be viewed quickly. And finally, they wanted their investment to pay for itself fast. Most importantly, they needed an insurance policy against machine crashes.



V-Tech uses Predator Virtual CNC to simulate their machining process and identify collisions before they cut.

That policy came via Predator Virtual CNC.

"Before we purchased Predator Virtual CNC, the risk of machine crashes was a fact of life," says Hanson. "We averaged roughly a week of downtime per year because of crashes. Because we are a high-production facility, this created a huge bottleneck for everyone; from mold thermoforming to the robotic finishing operations; nobody would have parts to work on. When you complete two parts a minute, you never want to measure downtime in hours, let alone days."

Does What CAM Can't

CNC verification integrates seamlessly into Hanson's programming processes. V-Tech's taillight cover designs are based on precise measurements. Hanson uses a Microscribe 3DX digitizing arm to physically describe the taillight to a Rhinoceros 3D CAD application. He then uses this rendering to create a part program within Vero International's Visi-CAM. Normally, this file would be considered ready for the floor. However, Visi-CAM's toolpath rendering, like other CAM systems, does not provide the CNC definition necessary to identify specific kinds of collisions and/or syntax errors.

Hanson found that building his 5-axis router in Predator Virtual CNC and simulating his CNC file was a simple process. Virtual CNC creates a very accurate picture of what will happen once the part is on the machine. Virtual CNC also enables Hanson to read in his stock shape from the CNC program.

"The job setup allows me to import and customize special fixtures and clamps, says Hanson. "This lets me know if the tool, or the holder, is colliding with the fixture or the part."

"We use just about every measurement Virtual CNC provides" says Hanson. "Virtual CNC's cycle time calculations are very accurate. We can also optimize our stock inventory by calculating material removal in Virtual CNC. We know what we can cut based on the stock on the shelf."

Affordable for Any Shop

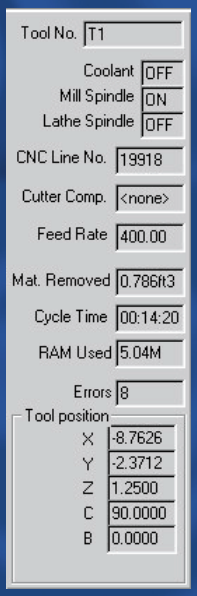
True CNC verification has traditionally been a product restricted to large production facilities with money to spend. In the past, verification applications came with a hefty price tag and a persona that it truly was a luxury item rather than a necessity. But that has changed. Downtime, as a result of machine crashes, coupled with the expense of scrapped work pieces and tooling, presents a significant expense for any shop. Plus, verification technology has evolved, putting the price tag for high-performance verification applications within reach of any manufacturer or job shop.

"We don't release a single part to the floor without running it through Predator Virtual CNC," says Hanson. "The product has more than paid for itself."



"We don't release a single part to the floor without running it through Predator Virtual CNC. The product has more than paid for itself."

— Collin Hanson



Predator Virtual CNC's Status Panel provides accurate tool positioning, cycle time and material removal information, among other measurements.

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