

NC software clears the path for safety and sustainability

Vericut star is on the rise at KOMET.

The CNC machine simulation and optimization software – distributed in Germany, Austria, and Switzerland by the Cologne company CGTech GmbH – has started to take on a central role at the precision tool manufacture. Vladimir Rozic of KOMET Group Precision Tools GmbH & Co KG emphasizes that “my colleagues and I can no longer do without Vericut – nor do we want to.”

With good reason. After using Vericut for half a year, it can be clearly stated that KOMET has been able to shorten its prove-out times significantly – and, in the case of new development, save a prove-out part entirely.

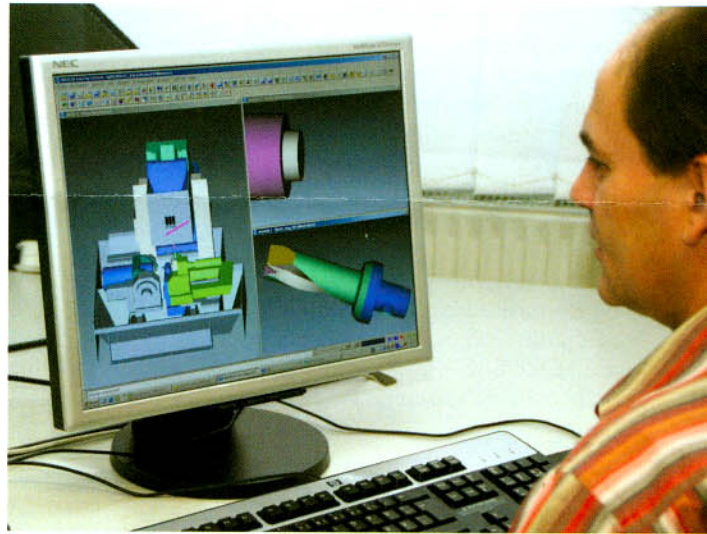
The customer base of the KOMET Group, which itself has been well-known across the world for precision tools since 1918, bears impressive witness to the worldwide activities of KOMET. The company from the Baden-Württemberg region in Germany supplies the automotive, aviation, and aerospace industry, as well as the machine and tool manufacturing systems sector. Its product portfolio includes precision tools for full boring, re boring, fine boring, rubbing, milling, turning, for creating threads, as well as for special applications. Power-plant technology, as well as medical technology, also turn to KOMET for premium quality and precision-oriented thinking.

Complex operations

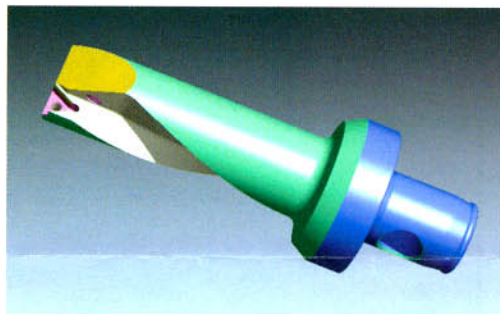
About 780 of the 1,420 KOMET employees world-wide work in the company headquarters in Besigheim. Branch offices in more than 60 countries secure the international claim – across the globe – of this system supplier, which has united Dihart (since 1996) and JEL (since 1999) under the umbrella of the

KOMET Group. The group sees itself as an expert resource for innovative, customized and cost-effective special tools for complex machining operations. Their expertise allows them to maintain harmony between customer requirements, machines, and tools.

Narrow tolerances and difficult geometries are a standard requirement for KOMET. This is why the



Vericut software assists in simulation and verification to prevent machine downtime.



Computer-generated example of KOMET's precision tool.

programming department, run by senior engineer Uwe Kretschmann, has been relying on the Vericut simulation software since May of 2006. Thirteen employees create NC programs for standard and special tools that continuously construct and program all new products in Unigraphics (UG). The use of Vericut has been so convincing that, since the beginning of September 2006, the motto has been: Only simulated programs are sent to the machine.

Vericut is an NC verification software product that simulates NC pro-

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cessing to find any errors in the NC program before the actual machine run. Four main functions distinguish the program: the simulation of material removal with verification and analysis, feedrate optimization, and simulation of the CNC machine. In addition to all of this, there is an option to export an utilizable CAD model.



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Handling without risk

Since fall 2006, Vericut has become part of the standard operating procedure at KOMET. The application makes it possible for complex machine tools to be simulated completely

in a single process. The precision of the workpiece and the reduced processing times are part of this complete handling process. The complexity of the geometry also makes this technology a necessity. In contrast, consider the follow-up costs in the case of a collision or crash – machine damage, including subsequent repair, procurement, and downtime costs, as well as high reject rates and missed delivery dates. Instead, Vericut provides machine simulation as realistic 3-D simulation.

Vericut has the full support of the KOMET employees who not only adopted the software very quickly but like working with it.

"The collaboration with CGTech is very good. If we ever have any prob-

lems, Vericut's expert tech support can always help us out," says Hans Manthey.

Savings potential

It's a simple fact: wherever KOMET can simulate with Vericut, Vericut is used for simulation. In the pre-Vericut era, at least one workpiece to be proven was tested by KOMET employees on the machine itself, by batch or cycle. Today, this can only be handled under certain conditions, given modern machine tools and corresponding axis accelerations – at least in the case of batch methods. With Vericut, on the other hand, KOMET attained the goals it had set: to eliminate on-machine proven-outs, to increase machine runtime and to

warrant machine safety – in short, to avoid crashes. The optimization potential generated by Vericut can easily be speci-

fied with precision. KOMET currently saves on a machined part because, among other things, in the case of freely formed elements, the Vericut Auto-Diff module shows exact deviations between the existing geometry from the cut stock and the target geometry from the design model.

Preliminary assessment after using Vericut for six months: the job start-up times have been significantly reduced.

The embedding of Vericut into existing software, hardware, and machine structures inside KOMET went off without a hitch. Rotating tools are currently handled by Wintool, and standing tools are managed in the Vericut tool manager. STAMA, as a manufacturer of milling, turning, and handling centers, was proved right in its recommendation when it included the NC simulation tool Vericut in its discussions with KOMET. CGTech, www.rsleads.com/710tp-158

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After the computer-generated tool is verified on Vericut, the real product is produced

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