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Eliminate collisions

Complex 5-axis machining is a challenge. Then a safe, virtual simulation environment becomes the "life insurance".



NC CODE SIMULATION

Eliminate collisions



Efficient and error-free to the component: With NC2Check, the precise 5-axis machining of complex components is reliably possible.

Picture: © Leo Liintang, JINDA - stock.adobe.com; Camwerk GmbH; [M]VCG

and errors

Precision, efficiency and error-free operation must always be ensured with complex machining strategies. This is where NC simulation comes into play. Because: There are convincing reasons why companies should consider turning away from CAM simulations and focusing on specialised NC simulation solutions.

The manufacturing industry is facing increasingly demanding challenges, especially in the area of complex 5-axis machining. It enables companies to create complex shapes and contours that were previously difficult to realise. But with this complexity also comes significant risks, especially with regard to collisions and faulty tool paths. To avoid costly downtime and wasted material, it is crucial to avoid collisions.

Although internal CAM simulations provide an overview of the manufacturing processes, they often reach their limits. Potential collisions and errors can be overlooked because these simulations are not able to simulate precise machine movements and tool paths. This is where NC simulation comes into play to close these gaps.

With the NC simulation NC2Check, potential collisions and errors can be detected and avoided at an early stage through the precise simulation of machine movements and tool paths. This not only leads to higher production quality, but also saves valuable time and resources.

Focus exclusively on NC simulation

One of the most impressive features of NC2Check is its clear focus on NC simulation. This software has been specifically designed to focus exclusively on this critical aspect and minimise distractions.

The choice to focus on a core function such as NC simulation allows software developers to develop a deep understanding of user requirements and needs. Through this specialisation, a highly specialised solution can be created that strives for the highest precision and efficiency. With this focus, developers can concentrate their resources on creating software that is perfectly tailored to the needs of the manufacturing industry.

Another advantage of focusing on NC simulation is the possibility of faster and more efficient development and

improvement of the software. Through targeted resource allocation, NC simulation can be continuously optimised and kept up to date. This leads to faster innovation cycles and the ability to react quickly to current developments and industry requirements.

The consistent focus on NC simulation also contributes to user-friendliness. Since NC2Check focuses exclusively on this aspect, the software becomes more intuitive and easier to use. Users can concentrate on the essential functions without being distracted by superfluous options. This leads to a steeper learning curve and faster integration of the software into the production process.

All in all, the targeted focus on NC simulation emphasises the importance of expertise and precision. Software companies that dedicate themselves to this specialisation underline their commitment to excellence in a critical area. NC2Check is an example of this approach, enabling companies to eliminate collisions and maximise the quality of their manufacturing processes.

Camwerk goes one step further by not only focusing on technology, but also on partnerships with various CAM manufacturers.

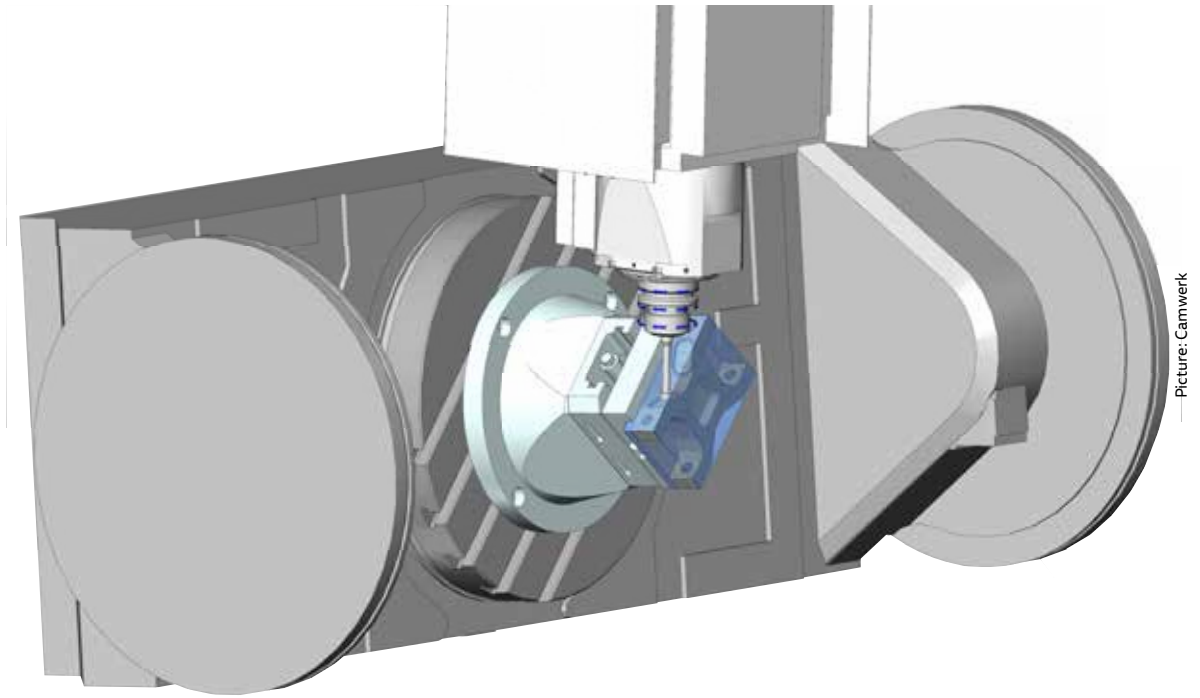
Written by
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At one glance

The more complex a component is to be manufactured, the greater the risk of faulty tool paths and collisions. It is important to prevent this swivelling.

Where CAM simulation reaches its limits, the NC simulation NC2Check comes into play: Even before the workpiece is on the machine, the machining process can be precisely simulated. This saves time, minimises errors and can virtually map the entire production process in the course of digitalisation.

Even before the workpiece is placed on the machine, the machining process can be virtually checked and optimised.



Picture: Camwerk

These strategic alliances allow Camwerk to seamlessly integrate its expertise into existing workflows. The partnerships create a strong link between production planning and virtual simulation.

Particularly noteworthy is Camwerk's fully integrated solution. This platform enables manufacturing companies to combine planning, programming and virtual simulation in one system. The seamless cooperation between Camwerk and various manufacturers of CAM software such as Autodesk or Mastercam creates a high level of synergy that is changing the manufacturing industry for good.

int he factory. This virtual commissioning makes it possible to optimise the entire machining process in advance. By simulating machine movements, tool paths and material removal, potential problems can be identified and eliminated even before the production process begins. This not only saves valuable time, but also minimises the risk of unexpected difficulties. The term "digital twin" is becoming increasingly important in the manufacturing industry. It is a virtual representation of a real product or process. In the case of NC2Check, the digital twin enables the precise simulation of manufacturing processes. This offers companies the opportunity to virtually map, test and optimise the entire production process. Thus, this digital twin opens up a new dimension of planning and analysis that leads to increased efficiency, precision and quality.

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The powerful NC simulation solution NC2Check is available from Camwerk for 4,900 euros per licence for 5-axis machining.

Virtual run-in and the digital twin: More than simulation

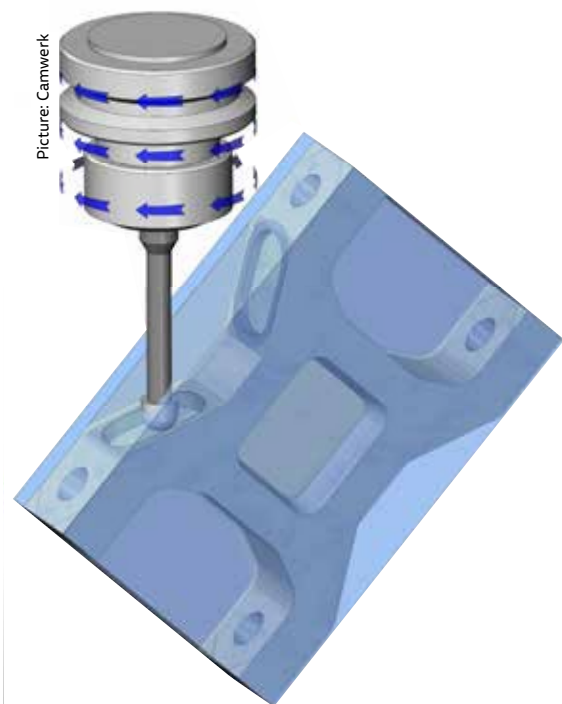
A decisive added value of NC2Check is the possibility of virtually running in projects long before the machine is

MM INFO

Process-safe and faster to process

The company Zetterer Präzision GmbH, a medium-sized business, is pushing ahead with the digitalisation of its own production in order to reduce run-in times and avoid errors in advance. With NC2Check in conjunction with Fusion 360 from Autodesk, it was possible to introduce an NC code-based machine simulation that saved an enormous amount of time.

Company boss Alexander Zetterer no longer wants to do without the support: "All NC programs for all multi-axis machines are simulated with NC2Check before the programs are sent to the machines, in order to prevent every possible small error in advance. NC2Check is our life insurance!"



Picture: Camwerk

Concentration on the essentials: In the simulation, you can focus on the machining strategy and hide all other data.

Mastering the shortage of skilled workers: an intelligent solution

At a time when the shortage of skilled workers is affecting the manufacturing industry, it is crucial to use resources efficiently. The integration of NC2Check offers an intelligent solution here, as the automatic simulation of toolpaths enables even less experienced specialists to check and optimise complex manufacturing processes. This enables companies to achieve high-quality results despite limited resources.

Another convincing factor that distinguishes Camwerk's high-performance NC simulation is its economical purchase. It is available at a fraction of the cost of other solutions on the market. This cost-effective option allows companies of all sizes to benefit from the advantages of NC simulation without overburdening their budget.

Simple tool management integrated in NC simulation

Tool management is also of decisive importance for smooth production processes. This is exactly where Tools4Tools comes in - a tool database that puts simplicity and functionality in the foreground. Without superfluous modules, Tools4Tools offers a simple method of managing tools and concentrating on the essentials.

During development, Tools4Tools was designed with user-friendliness in mind: The intuitive user interface makes it easy to add, edit and organise tools. The clear structure ensures effortless handling and frees users from unnecessary complexities.

Tools4Tools is also seamlessly integrated with NC2Check - essential for Camwerk to create seamless workflows and optimised manufacturing processes. In this way, tool information can be used directly in NC2Check, resulting in precise simulation.

NC simulation in practice

More about the use of NC2Check at Zetterer Präzisionstechnik GmbH:



Global influence and pioneering innovation

Camwerk's technological innovation is not limited to local markets. With a global presence through subsidiaries and sales partners, the software manufacturer is clarifying its position on the international market. The company's vision of making a lasting impact on the manufacturing industry through technology and innovation is strengthened by the global presence of NC2Check.

NC2Check's success story in 5-axis simulation is the starting point for further innovations that will continue to drive the manufacturing industry forward. For example, the company is already working on extending the solution to the area of multi-channel and Swiss processes.

Innovation, efficiency and global presence - Camwerk and its solutions are redefining the manufacturing industry: from NC simulation to tool management and integrated efficiency, Camwerk offers a holistic approach to high performance manufacturing. The future is full of possibilities, and Camwerk intends to continue playing a leading role in shaping that future. (mi)

NC simulation in focus: The operation of the software is intuitive and focuses exclusively on NC simulation.

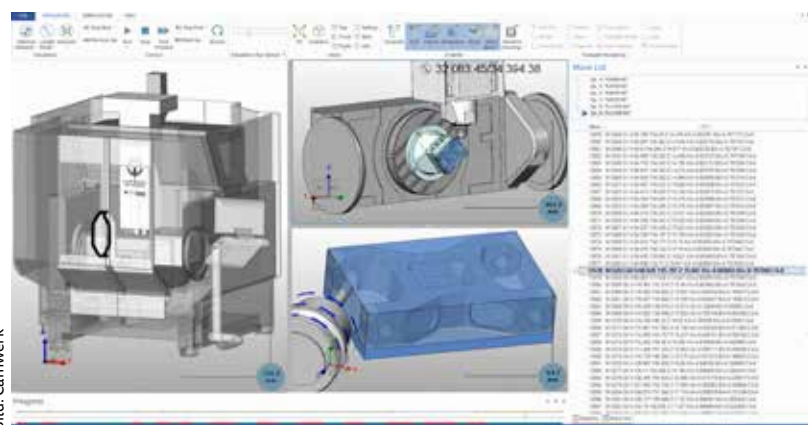


Bild: Camwerk