Vericut

EMGE AŞ

Vericut drives efficiency and reliability at major machining company

User Story

EMGE AŞ, a major machining company in Türkiye with more than 100 machines including 40+ CNC machines on site, is now benefiting from the introduction of Vericut verification, simulation and optimisation software. This astute investment is helping the company to drive higher levels of efficiency and reliability in its extensive machining operations, which see the manufacture of around 1.5 million parts per annum from materials that include aluminium, steel, titanium and composites.

Family-owned EMGE has origins dating back to 1975 when it began trading in a workshop space of just 90m². Fast-forward almost 50 years and the company has around 250 employees and recently moved (July 2024) to a 20,000m² factory in the Ankara region from where it serves a plethora of prestigious customers in sectors that include aerospace and electromechanics. The company holds both AS9100 and ISO9001 accreditations.

Continuous improvement

For more than 35 years, EMGE has adopted the principle of continuous improvement, implementing production strategies based on Six Sigma and Kaizen methodologies. The company supports these efforts with investment in the latest manufacturing technologies.

“After introducing 5S, Kaizen and lean production policies, we decided to invest in Vericut as a means of reducing set-up times in our production processes,” explains Emre Uluhan, a Mechanical Engineer with responsibility for EMGE’s NC Programming Department. “This decision enables us to detect potential machining errors beforehand, simulate multiple operations in a single file, and execute them swiftly and reliably. Additionally, we can create specific simulation templates for new machines added to our organisation’s inventory.”

Before Vericut, the process of simulating and verifying operations at EMGE was very different.

“We previously had to create separate simulation files for each operation, which led to inefficiencies due to the time required,” he says. “In contrast, using Vericut means we need just a single session to simulate programs of parts produced using multiple set-ups. Vericut operates so quickly and reliably that we observed an increase in our production efficiency from the very first moment of using it.”

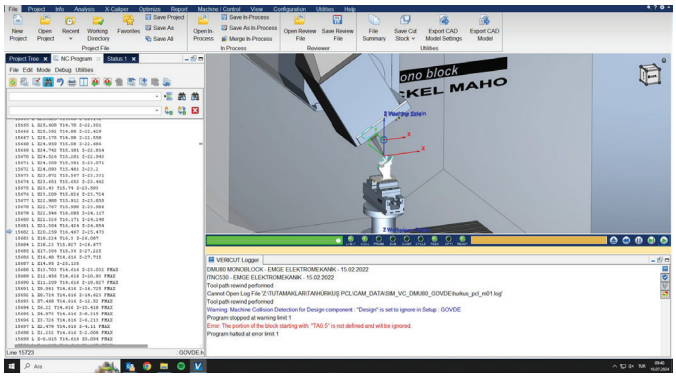
EMGE reports a reduction in processing times for first article inspection (FAI) parts of 50% thanks to the confidence provided by Vericut simulations.

Short lead times

Customers expect EMGE to produce accurate parts in the shortest

possible lead times, especially in the aerospace sector. EMGE is a strategic partner and approved subcontractor for a host of aerospace OEMs in Türkiye and further afield using its vast array of high-speed CNC machining centres, multitasking mill-turn machines and CNC turning centres.

EMGE opted for Vericut following recommendations from major industry manufacturers. Furthermore, scrutiny of alternative solutions revealed they lacked the same reliability, speed and functionality of Vericut. The availability of comprehensive technical support and training from local reseller CEM was another important factor in the purchase decision.



Many benefits

Aside from the ability to simulate multi-operation programs with ease, EMGE values a number of further Vericut features, including the ability to model detailed tools and holders, the capacity to define tolerances for any condition in collision settings, and the ability to set stop conditions for machine collisions (such as stopping 15mm before a high-risk area). In addition, the company takes good advantage of specific modules such as the NX-to-Vericut interface and AUTO-DIFF.

“Creating simulations is much easier and faster thanks to the ‘NX to Vericut' interface,” states Emre Uluhan. “It provides significant convenience for the user, especially in multi-operation programs. Additionally, with settings saved in the NX file, it’s simple to set-up existing simulations. Thanks to AUTO-DIFF, we can see remaining stock on the part and the amount of tool immersion on a single page following simulation. We can use this more efficiently with the tolerance value.”

Virtual environment

EMGE has already built a number of its machine tools in Vericut’s virtual environment, including Baofeng, Huron KX50, Huron NX40 and Maple NX-1060 machines. The company is now planning to create simulations for a number of different brands arriving as a result of recent investment.

“Due to its detailed nature, Vericut may at first seem daunting to learn, but we soon became very proficient,” concludes Emre Uluhan. “Even for new members of the NC programming team, the ability to process parts on the machine without issues thanks to Vericut’s simulation capabilities boosts their confidence and contributes to their development. I would recommend Vericut to any manufacturer that wants to prioritise machine efficiency, reduce part processing costs and avoid material wastage due to high material costs.”

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