

Tebis Transforms Machining Safety and Efficiency at Stour Precision Tools Ltd

Founded in 1966 Stour Precision Tools Ltd has developed into a market leading supplier of robust and reliable tooling solutions. Designing and manufacturing at their facilities in Droitwich, Worcestershire, they specialise in conformance work holding fabrication fixtures for manual and robotic welding, end of arm tooling for robotic handling solutions, positioning manipulators for manual and robotic applications, as well as work holding machining fixtures. The company primarily serves major automotive manufacturers and off-highway vehicle producers, where high volume output and high quality finish is essential.

Stour Precision Ltd became a Tebis customer in 2023 after they purchased Soraluze milling FS800 machine. Clive Chaplin, Managing Director from Stour Precision Ltd explains: "Our new Soraluze machine required far more advanced CAD/CAM capabilities than our existing setup could support. We needed a solution that would improve CNC programming and deliver greater consistency, while also providing accurate toolpath simulation and reliable machine collision avoidance."

After looking at several options, Stour Precision Tools chose Tebis as their CAD/CAM system. Tebis stood out for its advanced simulation capabilities and its proven ability to reduce programming time while improving machining quality.

Paul Scally, Site Manager from Tebis UK also describes: "In Tebis, we have the ability to build the complete kinematics of a machine directly into the software. This includes everything from the rotational limits of the machine head and the linear travel limits to head change and tool change macros. All these elements are integrated into the Tebis Virtual Machine, giving us a fully accurate and safe simulation environment."

Clive continue to explain: "The Tebis software creates a full digital twin, which gives us confidence that we can reach difficult features, run accurate virtual machining simulations, and check the whole manufacturing environment. So, when it comes to pressing the go button, we know we can run the job with full confidence."

This digital twin capability has transformed their approach to manufacturing. By creating a complete virtual representation of machines, fixtures, tooling, and work holding; Stour Precision Ltd can simulate and verify every operation before it reaches the shop floor, eliminating costly collision risks.

For Stour Precision, collision checking is critical, and Tebis allows them to perform this in three distinct stages within the software. The first stage is the planning stage, where we set up the job on the machine. At the first stage of the planning process, Tebis Virtual Machine technology provides tools to ensure that a component which is planned to be machined will fit on the designated machine tool. This can be checked along with the optimum setup position, tool tilt directions and cutting tool lengths required.

The second stage is for programming, Tebis uses Virtual Machines for toolpath calculation and collision avoidance, taking into account cutting tools, tool holders and the machine heads. Machine tool rotational axis limits are also included in the toolpath calculation.

At the last stage of toolpath verification, Tebis supports automated toolpath checking. This reduces risks of any collisions, not only against cutting tools, tool holders, machine heads and components, but also the whole machine tools including the shields, barriers, fixtures, clamping devices and any other components setup on the machine at the same time. If there is a problem, it is easy to modify and recheck everything, all within Tebis.

Paul also explains: “When we first met Stour Precision, they were already using another CAM software. What they really needed was the implementation of reliable collision avoidance. Switching from one software system to another can feel worrying for any company, and it is completely understandable that this stage can cause concern. But from our perspective, there is nothing to be worried about. Tebis is here to support you throughout the entire process, and that is exactly what we did for Stour Precision. We provided a clear implementation plan along with comprehensive training to ensure a smooth transition.

For us, every customer becomes a partner. We build close, long-term relationships and work side-by-side with each company to help them get the most out of Tebis.”

Clive also explains that the standardisation provided through the Tebis tool library enables the team to work effectively across the wide variation in their product range. The company’s products differ significantly in size and complexity, and the Tebis tool library gives them the consistency they need to manage this variety.

Clive concludes: “The support has been excellent, and we see a very bright future with Tebis. The level of personal attention we received has been outstanding. The Tebis team has been fantastic, always reaching out, checking in after our first installation, and making sure we are getting the full utilisation of the Tebis software.

That ongoing commitment has given us real confidence. It is clear that Tebis doesn’t just provide software, they are our partners. We also have a wide range of machines, and we are now looking at implementing Tebis across these machines as well.”