



Success Story

With an eye for detail!

The Formula 1 and aeronautical industries represent two major pillars of manufacturing. Although they differ in the expected project turnaround times, both require the highest level of quality and must aim to achieve...

...the best-price-performance ratio possible. Those who want to succeed in these industries must place exacting demands on themselves, their employees and their products – and be able to think and act in a forward-looking manner.

What may sound self-evident actually involves having great business acumen, consistency and competence, as can be seen in the example of Kaiser Werkzeugbau, a renowned parts supplier for the Formula 1 and aeronautics industries. 25 years ago Thomas Kaiser staked his claim as an independent supplier of sophisticated parts that required special manufacturing know-how. Within the first year, he was able to hire two employees. Five years later that number increased five-fold. Today 50 employees are working for the company, which has a production area of 3,000 sqm and is based in Helferskirchen/Westerwald, Germany.

Thomas Kaiser describes his recipe for success as follows: “An appreciation for premium precision parts manufactured by an expert with an eye for detail combined with consistency in upholding our company philosophy – these are the factors that set us apart and underpin our success.” One outcome of this target-oriented method of working is that the majority of the employees

are recognized master craftsmen like their boss. Their extensive professional training represents a key contribution to the company’s strong performance.

Another ingredient for success is how the team surrounding Thomas Kaiser is committed to seeking out opportunities for further improvement. These experienced

Kaiser Werkzeugbau has firmly established itself as a parts supplier for motor sports and Formula 1 racing in particular.



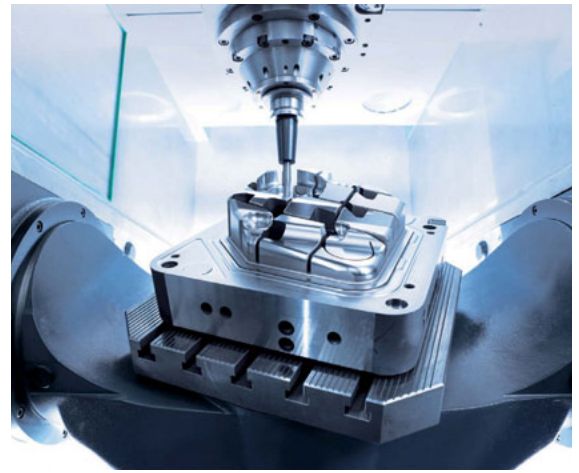
About Kaiser Werkzeugbau

Quality indicates for Kaiser Werkzeugbau to do justice to the demands of their customers. That is customer orientation also and particularly in the high-class area. Here they lay the foundation-basis to the contentment of their customers. The production of extremely required parts of the highest security class for their partners from the aviation and the formula 1 signify for Kaiser Werkzeugbau an everyday challenge. As a top-supplier they support their partners with parts for all areas.

> www.kaiser-wzb.de

“At Kaiser WZB we have been able to reduce the programming times for all 2D to 5-axis simultaneous machining jobs way while still ensuring maximum process reliability.”

Stephan Kirschner,
Regional Sales Director OPEN MIND



employees know how to get the most out of each process. To do so, close cooperation between the areas of CAD, CAM, tools, materials and machines plays a decisive role. The extremely short time window for manufacturing Formula 1 parts – races are usually separated by only two weeks, which means actual manufacturing time is measured in mere hours – is a major challenge. The ‘first shot’ has to hit the mark, so to speak. The necessary manufacturing processes therefore have to be accurately planned in the early planning stages. For when an order arrives, a decision has to be made immediately regarding its feasibility in the time given.

CAM reduces processing times

To ensure top quality in this ‘high-speed’ business, one must be able to plan all results as precisely as possible. The CAM system plays a very important role in that regard. The innovative workpieces required for Formula 1 racing push the limits of what is possible in terms of contour complexity, tolerances and materials. The options afforded by the old programming system were simply no longer adequate. Flexibility and the leeway to develop new ideas were needed. In light of such demanding requirements, *hyperMILL*® from OPEN MIND Technologies was able to showcase its extra-ordinary capabilities on a particularly difficult part.

Many complex geometries can only be realised with 5-axis simultaneous machining or require significantly lower processing times. That is why Kaiser Werkzeugbau invested in advanced 5-axis machines from companies such as Hermle and DMG.

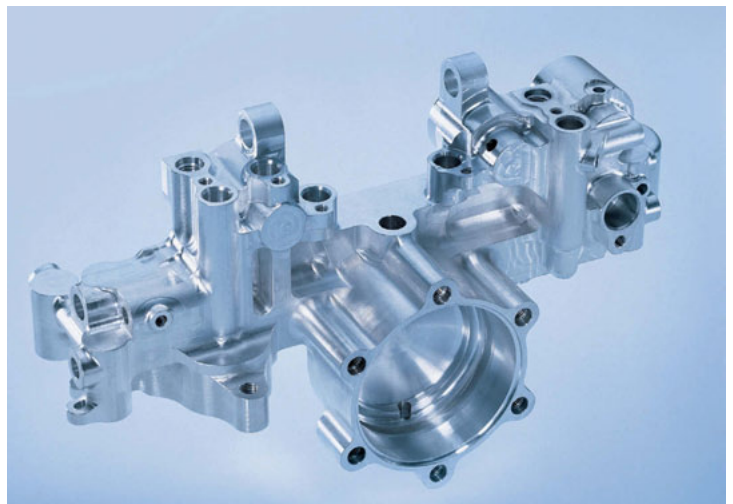
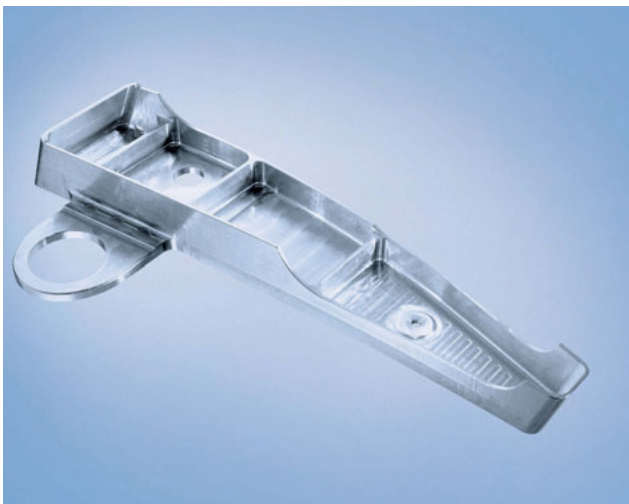
hyperMILL® offers machining strategies that take full advantage of the capabilities of such advanced machinery. Automated tools such as collision avoidance, feature technology, job linking or stock tracking allow for a reduction in programming and processing times while ensuring maximum process reliability. The fully automated calculation of tool angles in 5-axis programming lowers the complexity of this technology and makes programming no more difficult than 3D machining.

The company has been using *hyperMILL*® for the past three years now. The software has not only proven itself in terms of 5-axis simultaneous machining, but also in the area of surface quality and precision, allowing the supplier to meet the high customer demands with ease. Thanks to the wide spectrum of available machining strategies and numerous optimisation functions, this system offers Kaiser Werkzeugbau the level of flexibility they need to succeed. According to Wolfram Kraft, Head of the CAM Department, “*hyperMILL*® is a very user-friendly CAM system with an intuitive user interface that offers a high degree of flexibility despite the complex technologies on which it is based.”

Co-development through beta testing

CAM is of critical importance to the company. For this reason, Kaiser Werkzeugbau actively participates in developing the CAM software as a beta tester. The company can therefore give voice to its own requirements in day-to-day manufacturing and help contribute to practice-oriented development. “The time

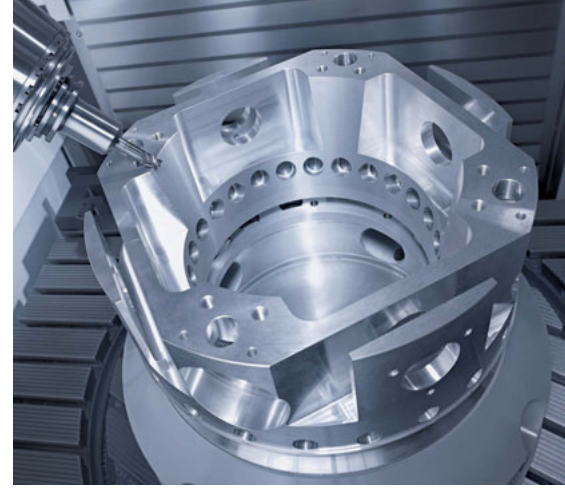
Kaiser Werkzeugbau produces extremely required parts of the highest security class for the formula 1 and the aviation.



we invest in the beta phase will reap many rewards later on”, comments Thomas Kaiser.

Purchasing a CAM system as comprehensive as *hyperMILL*® represents a long-term business decision. “Companies often shy away from investing in a high-end tool like *hyperMILL*®, yet the manufacturing advantages it offers after an introductory phase of only a few months speak for themselves”, adds Stephan Kirschner, Regional Sales Director at OPEN MIND Technologies AG. “I am pleased to say that we at Kaiser Werkzeugbau have been able to reduce the programming times for all 2D to 5-axis simultaneous machining jobs way beyond all our expectations while still ensuring maximum process reliability.”

To gain command of the numerous options this system provides requires proper job instruction and training. To this end, OPEN MIND Technologies AG offers basic and ongoing training courses at its headquarters or through individual on-site workshops. A support team is also provided to help service the system free of charge for customers.



Cylinder heads are fast and easy to program with the *hyperMILL*® tube package.

Future goals

The company has firmly established itself as a parts supplier for motor sports and Formula 1 racing in particular. Kaiser Werkzeugbau is moreover planning to expand its activities in the aerospace industry. Here as well, manufacturing know-how, precision and flexibility are the key to producing technologically demanding parts quickly and reliably. Also, in the next two years the company will develop its own product as it seeks a third pillar of business. Kaiser Werkzeugbau is thus laying the groundwork for the future growth of the company. ■

About OPEN MIND Technologies AG

OPEN MIND is one of the world’s most sought-after developers of powerful CAM solutions for machine and controller-independent programming.

OPEN MIND designs optimized CAM solutions that include a high number of innovative features not available elsewhere to deliver significantly higher performance in both programming and machining. Strategies such as 2D, 3D as well as 5-axis milling/mill turning, and machining operations like HSC and HPC are efficiently built into the *hyperMILL*® CAM system. *hyperMILL*® provides the maximum possible benefits to customers thanks to its full compatibility with all current CAD solutions and extensive programming automation.

OPEN MIND strives to be the best and most innovative CAM/CAD manufacturer in the world, helping it become one of the top five in the CAM/CAD industry according to the NC Market Analysis Report 2015 compiled by CIMdata. The CAM/CAD solutions of OPEN MIND fulfil the highest demands in the automotive, tool and mould manufacturing, production machining, medical, job shops, energy and aerospace industries. OPEN MIND is represented in all key markets in Asia, Europe and America, and is a Mensch und Maschine company.



We push machining to the limit

www.openmind-tech.com