Press release

Milling optimization as a service

New service from Kistler for machining applications improves performance and saves costs

Winterthur, June 2023

Kistler is following up its collaboration with Productive Machines Ltd by offering a new service for milling applications. It uses specialized software for combined analysis of data from physical measurements and NC machines. The benefits: optimized cutting parameters that help reduce chatter vibrations, improve the quality of manufactured parts, and cut overall costs.

In machining applications, unwanted vibrations on structures cause multiple negative effects. They can impact component quality (dimensions, surface, etc.), limit productivity, and decrease tool life – leading to faulty parts and additional reworking as well as higher costs for materials, tools, machines and engineers. To avoid these problems, Kistler is now offering a new milling optimization service in collaboration with Productive Machines Ltd, the UK-based cutting force experts.

The basis for this innovative service is a dynamic stiffness analysis of the machine tool. The physical optimization phase (known as the 'tap test') can be accomplished with impulse hammers and accelerometers from Kistler; this is followed by an analysis of the customer's NC program, performed with new software from Productive Machines. All the acquired data is then processed to create a new NC program which, once installed, ultimately leads to better cutting performance, longer tool lifetimes and higher OEE – to name just a few benefits.

Significant improvements across diverse machining applications

Although the milling optimization service has only been available on the market for a short time, customers in many industries have already discovered its major advantages. Successful use cases include applications in the automotive, aerospace, moldmaking, precision parts and medical technology sectors. Some examples: for a French car manufacturer facing challenges with a machining process for a gearbox housing, the optimization service provided a solution that led to shorter cycle times and reduced tool wear. Also thanks to the new offering, an aerospace supplier based in Spain benefited from less chatter, fewer damaged parts and overall cost savings of 25 percent. And last but not least, a UK-based mill/turn specialist was able to optimize production of an

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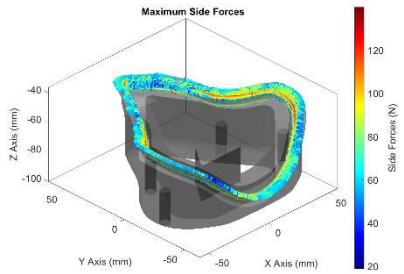
aerospace part with the help of the new service: in this case, applied maximum forces decreased from 2,000 to 1,000 N and cycle times were shortened by 13 percent.

Fully digital delivery available

The new milling optimization service is available either onsite (when experts from Productive Machines visit the customer) or remotely in digital form via a credit-based online platform. Customers who choose the remote option conduct the dynamic stiffness analysis themselves, and then upload the CAM files to the platform. Buelent Tasdelen, Business Development Manager at Kistler, comments: “Our new milling optimization service will benefit moldmakers, machine builders, manufacturers and OEMs in many industries: it gives them exactly what they need to improve their machining processes. By largely eliminating vibration, customers enjoy advantages such as higher product quality, longer tool lifespans and shorter cutting times – so they can significantly boost their productivity and OEE while cutting their production costs.”

Image material (please name the Kistler Group as picture source)

Kistler is offering a new milling optimization service that combines physical measurements and deep software analysis: benefits include improved part quality and tool performance, reduced chatter vibrations and lower costs.



Following a dynamic stiffness analysis, a new NC program is calculated for the milling machine: this optimizes the key parameters, leading to improved overall machining performance and higher OEE.

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About the Kistler Group

Kistler is the global market leader for dynamic pressure, force, torque and acceleration measurement technology. Cutting-edge technologies provide the basis for Kistler's modular solutions. Customers in industry and scientific research benefit from Kistler's experience as a development partner, enabling them to optimize their products and processes so as to secure

sustainable competitive edge. Unique sensor technology from this owner-managed Swiss corporation helps to shape future innovations not only in automotive development and industrial automation but also in many newly emerging sectors. Drawing on our extensive application expertise, and always with an absolute commitment to quality, Kistler plays a key part in the ongoing development of the latest megatrends. The focus is on issues such as electrified drive technology, autonomous driving, emission reduction and Industry 4.0. Some 2,000 employees at more than 60 facilities across the globe are dedicated to the development of new solutions, and they offer application-specific services at the local level. Ever since it was founded in 1959, the Kistler Group has grown hand-in-hand with its customers and in 2022, it posted sales of mCHF 434. About 8% of this figure is reinvested in research and technology – with the aim of delivering better results for every customer.

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