CUSTOMER STORY

3D mice increase productivity and promote health at Grob

CAD and CAM users want to interact with digital content and 3D models in an ergonomic and intuitive way. Grob-Werke successfully fulfils this wish with the implementation of input devices from the manufacturer 3Dconnexion.

Grob-Werke, a family-owned company that primarily develops and manufactures plant and machine tools, has relied on the input devices from 3Dconnexion for almost ten years. They are in use in every area in which 3D applications are used – applications engineering, design, manufacturing and development.

"In the end, we only considered products from 3Dconnexion as they have many unique selling points in terms of 3D machining, such as the patented sensor, and the company is well-known for its quality, reliability of its products, and high levels of service," explains Sebastian Schön, Team Lead for Application Technology, Sales and Universal Machines at Grob-Werke.

From the 3D mouse to the industrial module

Grob-Werke uses the SpaceMouse Pro, SpaceMouse Compact and SpaceMouse Wireless 3D mice from 3Dconnexion's comprehensive portfolio and, depending on the department, the CadMouse and the CadMouse wireless in place of standard mice.

The SpaceMouse Pro and SpaceMouse Compact's main technical features include, among others, 3Dconnexion's patented sensor with six degrees of freedom (6DoF). The sensor enables precise navigation in 3D models and views in all industry-leading CAD applications. Pushing, pulling, twisting or tilting the controller cap allows the user to pan, zoom and rotate 3D models intuitively. The user can also easily select and edit models with a standard mouse or a CadMouse in their other hand simultaneously. The SpaceMouse Pro's features include QuickView buttons that provide easy and quick access to twelve standard views and a total of 15 fully programmable buttons that allow the user to execute frequently used commands faster. The SpaceMouse Compact, which has two ergonomically positioned buttons for opening radial menus, features a compact, functional design so that it can fit on any desk without a problem.

"I can't imagine working with CAD and CAM applications every day and not using the combination of a standard mouse and a 3D mouse. The feedback from users is clear: Working with two hands is significantly faster than working with just one. For example, you don't have to constantly switch between mouse and keyboard when positioning objects anymore. This way of working saves a lot of time during a long work day," explains Schön. "That's why 3Dconnexion products also ultimately make a significant contribution to the increase in productivity at our company."

Around 700 CAD and CAM work stations at Grob are equipped with 3Dconnexion products. They are used in

- engineering with Siemens NX™, the interactive CAD, CAM and CAE system,
- manufacturing with Siemens NX™ and a TopSolid® CAM solution and
- application technology with CAM software such as hyperMILL®, SolidCAM, Tebis and Siemens NX™.

Grob employees in application technology use the 3Dconnexion CadMouse instead of a standard mouse in addition to the 3D mice. "In our eyes, there isn't a standard mouse that is perfectly suited to working with CAD applications," says Schön. "Our users appreciate the CadMouse's dedicated middle mouse button for executing frequently used commands in particular, as well as the CAD-specific functions such as SmartScroll or QuickZoom."

As well as the SpaceMouse and CadMouse products, Grob also uses 3Dconnexion's industrial module, the SpaceMouse Module, in all universal machines sold with a GROB⁴Pilot control panel. GROB⁴Pilot enables interactive machine operation with a multifunctional interface. The SpaceMouse module is built directly into the control panel and enables efficient use of software tools on it, such as CAM applications or virtual simulations. It consists of a patented optoelectronic sensor unit, including a controller cap with six degrees of freedom, whereas a conventional joystick only offers four or five degrees of freedom. The six degrees of freedom via deviations along the principle X, Y and Z axes as well as tilting and rotating movements on these axes are made possible thanks to optoelectronic scanning. This allows Grob employees to intuitively handle complex 3D control tasks with just one hand.

3Dconnexion mice support workpiece programming

Grob also uses 3Dconnexion products – the SpaceMouse Wireless, the CadMouse Wireless and the SpaceMouse Module – in its Technology and Application Centre.

The Technology and Application Centre is used for sample processing, process testing and in many more development stages of customer workpieces. The local machine park is impressive. With around 15 machines, including workpiece storage systems and linked machining systems, it offers a high-capacity base for application technology. Ten of these machines are equipped with the GROB⁴Pilot which utilize the SpaceMouse Module. The other five, which use different control types right now, will also be equipped with the panel in the near future. In addition, customer trainings are carried out directly at the machines at the TAZ, which is very well received by Grob customers. During sample processing, for example, customer workpieces are programmed on the CAM system directly on the machine, using equipment from 3Dconnexion.

Working with two hands improves ergonomics

The major challenge when introducing new solutions or technologies is generally dealing with the users' scepticism. However, thanks to a 3Dconnexion test mouse, application engineers were able to familiarise themselves with the functionality and the new way of operating beforehand. This meant the mice were fully accepted from the beginning.

The use of 3D mice in the area of CAD and CAM offers numerous advantages, especially the fact that their use significantly speeds up work. Users can zoom, rotate and move their models in one flowing movement using one hand, while they edit their models using a standard mouse with the other hand. This means they can accelerate every step of the product development process, from design to production. Working with two hands also improves ergonomics, as the strain is spread across both hands rather than just being focusing on one. This also has a positive effect on the user's posture as they then generally sit upright on their own.

The development of new technologies has been an important part of Grob-Werke's success since the company was founded. As a result, more and more new technologies that set standards in mechanical engineering are being created. And a small but important part of this process is the input devices from 3Dconnexion.