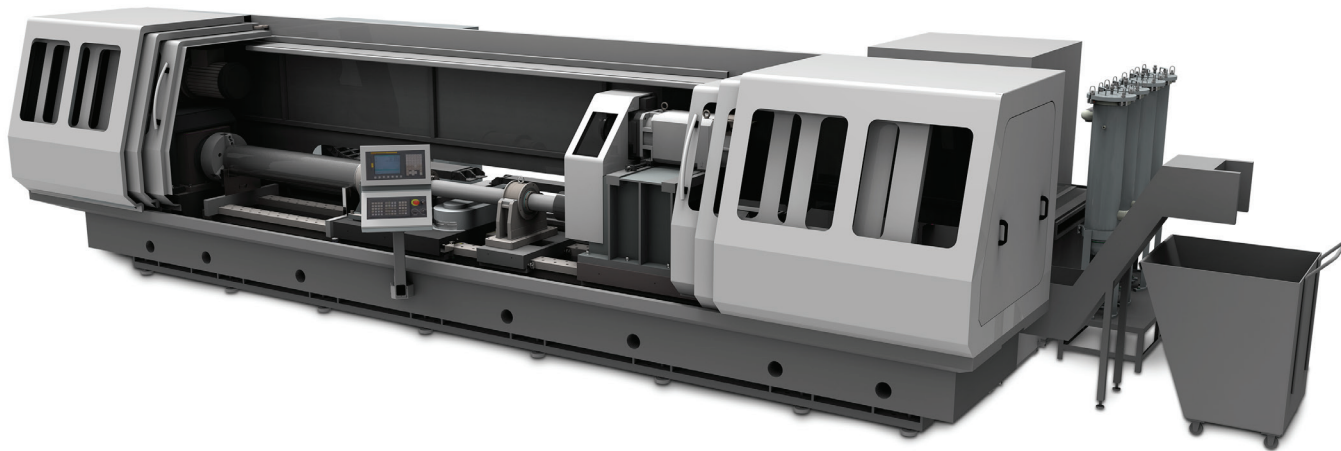


PRECIHOLE MACHINE TOOLS PVT. LTD.

Improving 3D designs and marketing with SolidWorks solutions

Virtual prototyping with SolidWorks software has helped simplify the design of SPMs.



For over two decades, Precihole Machine Tools Pvt. Ltd. has been providing Indian as well foreign industries with specialized deep-hole drilling machines. With over 500 customers in India alone, the company not only creates deep-hole drilling machines, their main strength, but has also developed state-of-the-art assembly, testing, and other deep-hole drilling special purpose machines (SPMs).

SPMs have to work the first time since the prototype itself is the final machine. The company used to employ a well-known 2D CAD software for all its design work, using it extensively for all standardized drafting practices. This included features such as standard customized sheet layout, tables, notes, blocks, line color, line size. The designers had achieved a very high level of proficiency in the software when the company heard about 3D CAD.

Initially there was some resistance from the management to switching from 2D to 3D CAD. Eventually the company evaluated a few of the most popular software packages that provided 3D modeling and decided to buy two licenses of SolidWorks® 3D CAD software.

The entire design team was very excited with the upgrade because most of the companies at the time were using only 2D. They received training at Precihole and immediately appreciated the power and scope of 3D design.

Challenge:

Improve the design of complicated machines using 3D software.

Solution:

Utilize the virtual prototyping integrated in SolidWorks software for easy design of complicated machines.

Results:

- Facilitated the design of complicated parts
- Created high-quality rendered images for marketing
- Used SolidWorks Animator to train new employees
- Simplified detailed drawing

Shift from 2D to 3D

Initially the designers' work went somewhat slowly as the platform was entirely new to them. Gradually they started building 3D models and needed to create detailed manufacturing drawings. However, they were unable to create drawings that could be released to the Manufacturing Department, mainly because there were no standardized practices established for SolidWorks.

When it came time to renew the license, they had no detailed drawings released in SolidWorks. The Financial Department wasn't ready to invest further in something that failed to produce results, and the Design Department wasn't able to justify use of the software. But this reaction only strengthened management's determination to stick with SolidWorks, and the company renewed its SolidWorks license.

When a customer approached Precihole with a request for a unique, specialized universal joint assembly machine, the designers realized that it would be very difficult to visualize in 2D software. So they decided that the entire machine would be made on the SolidWorks platform, even the detailed drawings.

One of the engineers working on the project had some friends who worked at a CAD outsourcing company. These people used to convert legacy data into SolidWorks 3D models as well as drawings. One of the employees was hired to visit Precihole every week for two to three days to work on machine modeling and detailing with Precihole engineers. With their help, Precihole was able to set up standard practices for SolidWorks modeling and detailing. They created standard blocks, templates, and notes, and the entire machine was modeled and assembled in SolidWorks.

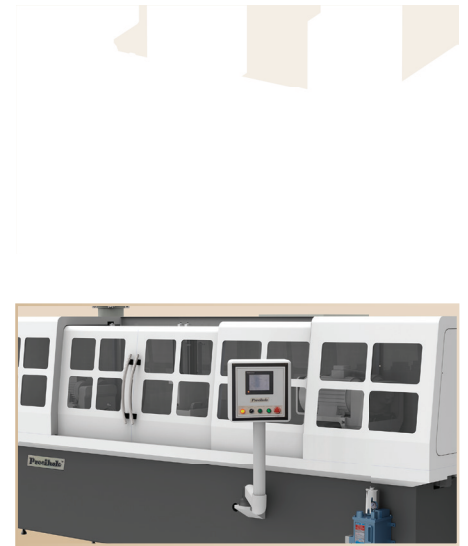
Precihole eventually designed one of its most complicated machines in SolidWorks. Today all Precihole machines, totaling over 400, are designed and detailed completely in SolidWorks. A few years ago, the company also developed standard modular machines for faster customer deliveries.

Applying SolidWorks software to marketing

Today Precihole uses SolidWorks not just as a design tool, but as a marketing tool as well. The company exports high-quality rendered images from SolidWorks that are used directly for creating quotations, on websites, in product catalogs, company brochures, and more. They use SolidWorks to create animations used for educational and training purposes for both new employees and customers. The company plans to use portable devices like the iPad® and iPhone® to view an entire SolidWorks assembly and manipulate it with your finger, which gives the company an edge over the competition.

"THIS WAS VERY CRITICAL FOR US. WE HAD THIS SOFTWARE THAT WAS GIVING US FANTASTIC RESULTS AND THEN WE WERE SUDDENLY TOLD TO CHANGE IT COMPLETELY."

Mr. Qazi
Director



Precihole engineers use SolidWorks 3D design software to express their ideas effectively.

Precihole

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