Manufacturing

Embracing AR to enable instant access to customer support

Liaoning Tianyi Machinery

Deploying game-changing augmented reality (AR) solutions from Lenovo for remote training and machine maintenance, repair, and troubleshooting.

Lenovo

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Who is Liaoning Tianyi Machinery?

Liaoning Tianyi Machinery Co., Ltd. manufactures precision machinery for the pharmaceutical industry. The company provides end-to-end development, production, sales, and after-sales services for products including capsule filling machines, high-speed tablet presses, and package sealing machines.

Based in China's Liaoning province, Liaoning Tianyi Machinery distributes its products widely within China, and across Asia, Europe, and the Americas.

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The
Challenge

Liaoning Tianyi Machinery's products are extremely complex instruments. For the pharmaceutical companies that operate and maintain these high-precision machines, there can often be a steep learning curve. To help customers maximize the value of their investments, the company dedicates significant effort to providing training for its service personnel and its customers.

For years, Liaoning Tianyi Machinery carried out this training in person, which required service specialists to travel long distances to customer locations. What's more, when customers encountered operational issues, it was sometimes impossible to solve them remotely, making support a time-consuming and costly endeavor.

When the COVID-19 pandemic struck, Liaoning Tianyi Machinery's ability to provide in-person support was severely restricted. So, the company looked for an alternative way to provide vital training and support services.
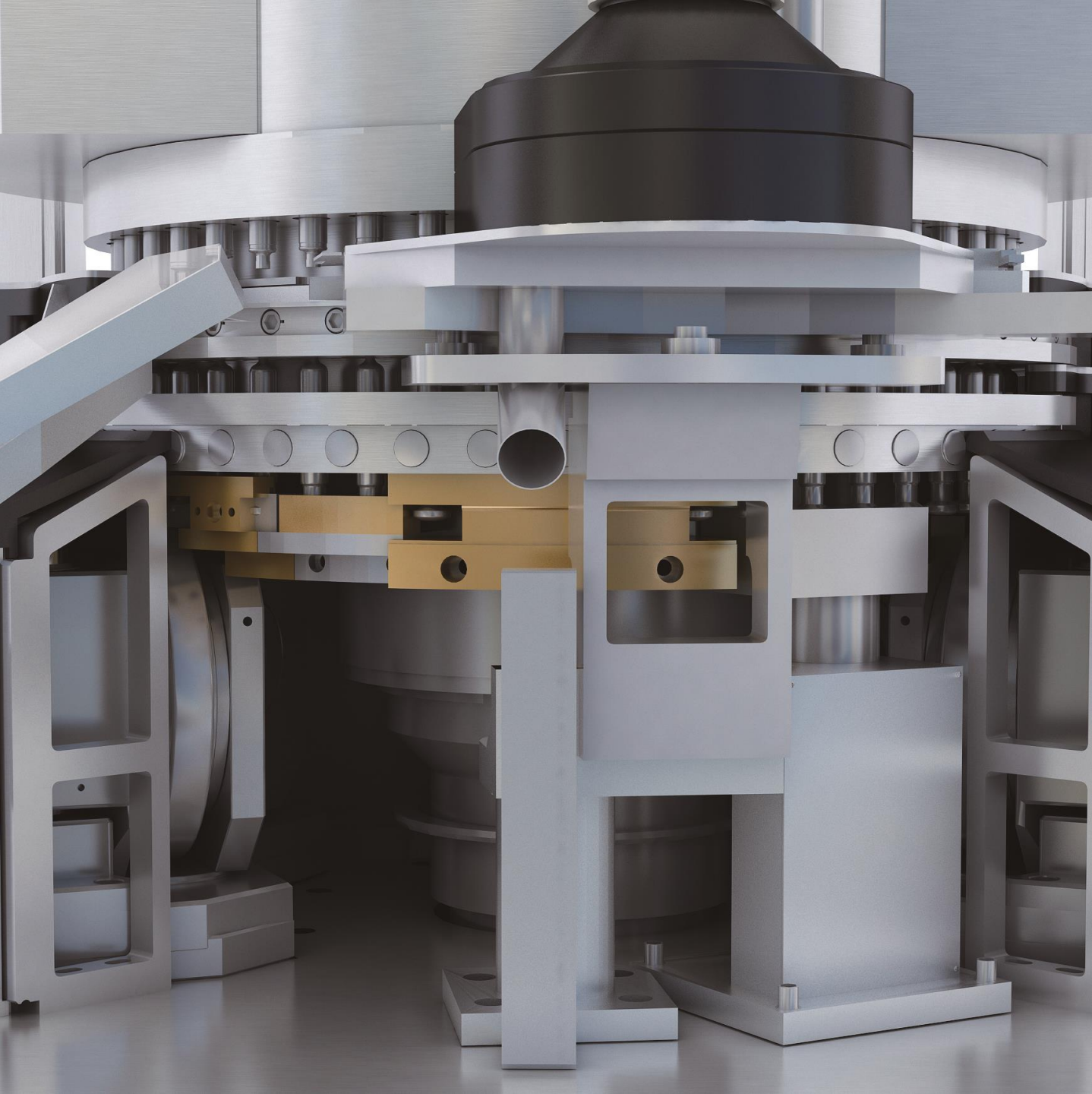
"Our training and support requirements are so complex that they can rarely be solved over a phone call or even a video chat. We targeted a more sophisticated remote collaboration and training tool that would empower us to provide timely, expert guidance both to customers and employees."

Zhang Liang
Information Department Director,
Liaoning Tianyi Machinery

Always-on training

Together with Lenovo's research and development (R&D) team, Liaoning Tianyi Machinery engineered two groundbreaking augmented reality (AR) solutions. Both solutions are built on Lenovo Morningstar G2 AR glasses with digital-twin technology, used to create virtual representations of the company's products.

The first solution is an AR training system: stARstudio. When a user puts on the Lenovo headset and looks at a Liaoning Tianyi Machinery product, the solution automatically recognizes the individual product components and overlays technical data and training information. The result is an immersive experience in which users are taught how to use their products as if an instructor were standing right next to them.

Hardware
Lenovo Morningstar G2
AR glasses
Lenovo ThinkSystem SR650
Rack Server

Services
Lenovo Professional Services

Next-level customer service

Liaoning Tianyi Machinery and Lenovo also co-created a remote maintenance solution: stARemote. This solution facilitates real-time communication between support specialists and customers, and displays annotated product models to assist customers with machine maintenance.

stARemote also leverages digital twins of the company's key products. When wearing the AR glasses, users can interact with virtual 3D models of their products. Thanks to integrated speakers, microphones, and communications software, users can work on maintenance activities or repairs while speaking with service engineers—blending digital tools with all-important human expertise.

Zhang Liang, Information Department Director at Liaoning Tianyi Machinery, explains: "If a part on a machine breaks, we can ship a replacement to the customer. Then, using stARemote, a service engineer can walk the customer through the steps needed to replace that part, using the digital twin as a reference—helping them get up and running faster than ever."
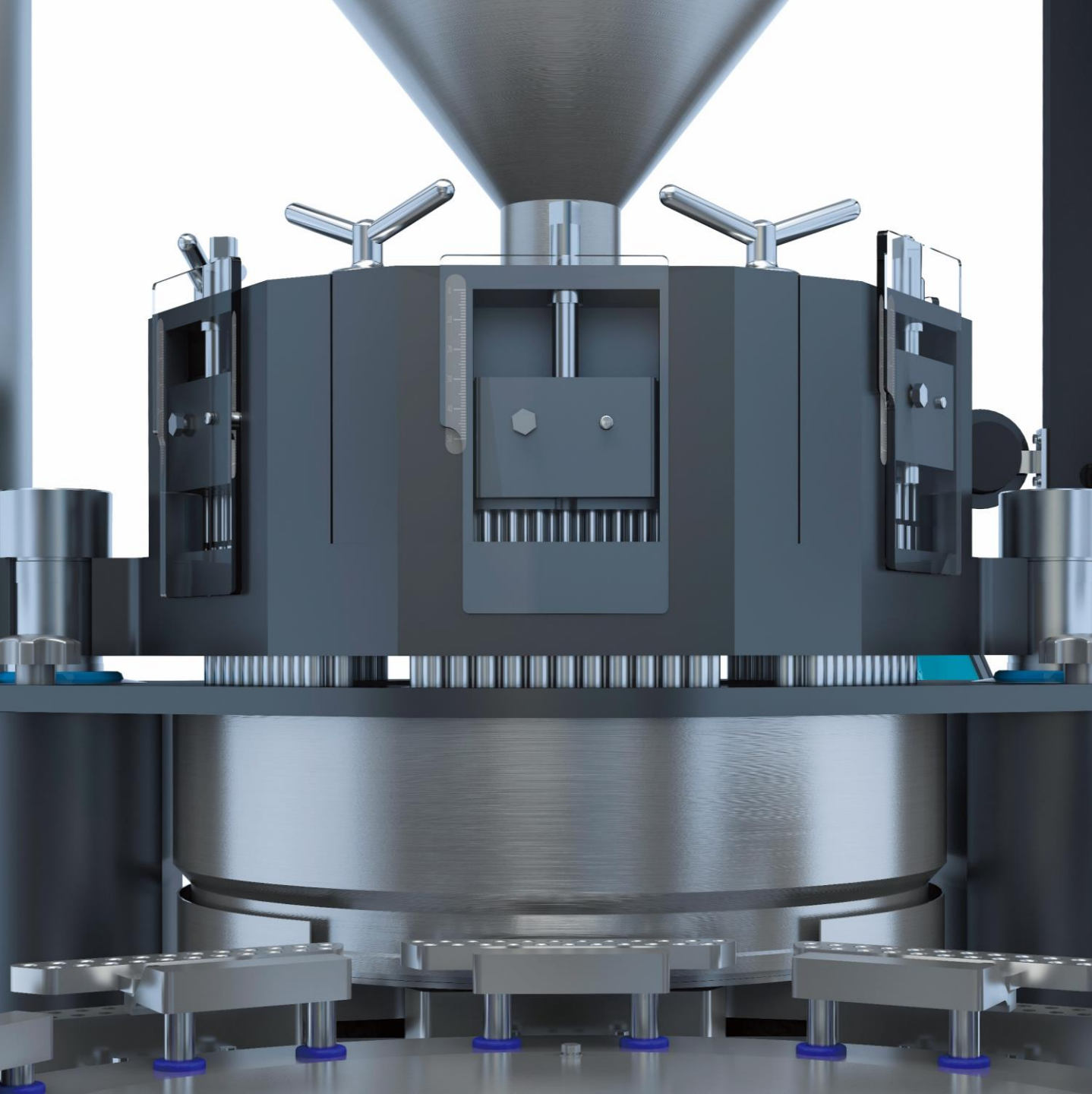
"We've deployed stARemote to more than 25 customers already and their feedback has been excellent. With the Lenovo AR solution, we can walk customers through common troubleshooting flows without ever stepping foot on the factory floor."

Zhang Liang
Information Department Director,
Liaoning Tianyi Machinery

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Results

Currently, Liaoning Tianyi Machinery uses the stARemote maintenance system to resolve up to 60% of customer support issues. The company has accelerated support, repair, and maintenance work—all while reducing operational costs.

stARemote is also making it easier for the company's engineers to provide an outstanding service. As more customers start using the solution, specialists will spend less time on routine support issues, and can focus on more complex and challenging cases—a better use of their expertise.

✓ >50% of support issues handled remotely

✓ >65% faster training

✓ Lower operational costs

Work in
a new
dimension

Liaoning Tianyi Machinery is seeing similar benefits around employee training. With traditional in-person training, it takes around 18 months for a new employee to be qualified to repair and maintain the company's products. Now, with stARstudio streamlining and enhancing the training process, they can achieve qualification in as little as six months.

Leveraging AR has allowed Liaoning Tianyi Machinery to revolutionize remote working and training, giving the company an edge over competitors and creating opportunities for smarter, more efficient work.

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This partnership has given us access to cutting-edge AR technology and world-class R&D resources. We are honored to be shaping the future of remote collaboration and maintenance together with Lenovo.

Zhang Liang
Information Department Director, Liaoning Tianyi Machinery

Why Lenovo?

Liaoning Tianyi Machinery chose to work with Lenovo based on the strength of its AR technology and R&D capabilities. Now, more than two years into their partnership, Liaoning Tianyi Machinery enjoys an excellent all-around relationship with the Lenovo team.

Zhang Liang comments: "We selected Lenovo because of their technical strengths, and we've gained a partner with so much more than that. The Lenovo R&D team has opened our eyes to amazing possibilities. On top of that, the support we've receive from Lenovo is top-notch: their support experts are very engaged, helpful, and responsive."

How do you handle complex work remotely?

Liaoning Tianyi Machinery builds an augmented reality platform for high-precision machine maintenance and training with Lenovo.

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