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Why the sheet metal industry is benefiting from the AI boom – an interview with TRUMPF and ZIEHL-ABEGG

The boom in artificial intelligence is also opening up new growth opportunities for German industry. Joachim Ley, CEO of fan manufacturer ZIEHL-ABEGG, and Stephan Mayer, CEO of TRUMPF machine tools, discuss the opportunities the data center boom presents for sheet metal processing companies and machine manufacturers, the advantages of automated sheet metal processing, and how long demand is expected to last.

Mr. Mayer, when we talk about artificial intelligence, most people think of chips and software. What does all this have to do with sheet metal?

Stephan Mayer: "A large part of data centers is made of sheet metal. This includes the server racks that house the computers. The ventilation and cooling systems, and finally the power supply, including the electrical cabinets, substations, and other systems. For TRUMPF, as a machine tool manufacturer, this is a huge growth market because sheet metal processing companies use our machines to produce a wide variety of parts for data centers, and demand is currently high."

Mr. Ley at ZIEHL-ABEGG manufactures fans. What role do data centers now play in your company?

Joachim Ley: "A very large one. Our core business is ventilation, air conditioning, and cooling for buildings. In recent years,

the data center cooling sector has grown significantly. Both business segments now each account for about one third of our revenue. I expect data centers to become our largest market segment within the next two years. We are the market leader in this sector in several regions of the world. This is also reflected in our growth figures: Last year, we grew by 12 percent, and this year we expect growth of around 20 percent."



ZIEHL-ABEGG fans play a major role in cooling data centers.

What does this growth mean for your production?

Ley: "We need to significantly expand our capacities. To achieve this, we have approved an additional investment package of 90 million euros for the next 24 months. However, it is not just a matter of installing additional machines. Above all, we want to increase production through automation and greater efficiency. The end-to-end solutions provided by TRUMPF play an important role in this – from the software and automated warehouse management systems through to the machines themselves."

Which parts do you specifically manufacture using TRUMPF technology?

Ley: "At our German plants, we manufacture a large part of our sheet metal components ourselves. These, for example, include supporting plates on which the fans are installed, and so-called inlet nozzles that are important for the flow of air. Reliability, flexibility, and good service are key for us. This is because our customers expect us to be able to deliver reliably even when demand is increasing significantly."

» **I expect data centers to become our largest market segment within the next two years.**

Joachim Ley, CEO of Ziehl-Abegg

Mr. Mayer, what machines are needed for components like these?

Mayer: "In data centers, we often deal with large, flat components made of relatively thin sheets. Punching and laser punching machines are particularly suitable for this purpose. Not only can they cut sheet metal, but also form ventilation slots or cut threads, for example. This eliminates the need for subsequent work steps. In addition, there are swivel bending machines that bend large sheets automatically and with high precision. Today, we can interlink these processes. From raw sheets to the finished bent component, the manufacturing process is then largely automated."

Automation is particularly worthwhile for large production runs. However, ZIEHL-ABEGG serves a wide variety of customers. How does that all fit together?

Ley: "That is precisely one of the great strengths of TRUMPF solutions. A data center customer may need 2,000 identical fans. A heating and ventilation contractor, on the other hand, might only order three or five units. We must be able to produce both orders as cost-effectively as possible. To do this, we need systems that can be adjusted to different components without requiring extensive setup work. During a visit to the TRUMPF Smart Factory in Chicago a few years ago, I was particularly impressed by how seamlessly the software works with the machines – from production planning and program creation to warehouse management, and optimum material utilization."

Mayer: "In the past, automation was primarily used in areas where the same parts were manufactured year after year, such as in the automotive industry. However, if you switch between different components multiple times daily, automation becomes very challenging. That is exactly what we are focusing on. We invest approximately 40 million euros annually in software development. Our aim is to be able to manufacture new components with as little programming and setup effort as possible. This will ensure that even small quantities are economically viable."



Stephan Mayer: "Sheet metal processing companies use our machines to manufacture parts for data centers. And demand is currently high."

Mr. Ley, demand for data centers is currently growing rapidly. Is there not a risk of an AI bubble developing and the industry being left with excess capacities?

Ley: "This is an issue we are worried about. Every extraordinary growth cycle eventually comes to an end, often resulting in excess capacities. The key question is when that will happen. Optimists expect growth to slow down but to continue for a long time. More conservative estimates predict a timeframe of two to four years. We expect the boom to last for at least another three years. Otherwise, our investment calculations would not add up. Another factor supporting this is that many of the announced investments are actually being implemented. Nevertheless, we are ensuring that we maintain a broad range of activities and do not become dependent on a single market."

Mayer: "I am also optimistic. Building data centers requires enormous investments in infrastructure and energy supply. Of course, political decisions or other unexpected developments can affect the market. However, when it comes to AI, we are still in the early stages in many areas, such as image processing and robotics. That is why I expect this trend to continue for a long time."

What must Germany do to ensure that as much of this added value as possible is developed here?

Ley: "We should not underestimate our strengths. Germany continues to have outstanding research institutions, universities, and innovative companies. Of course, we must address challenges such as high labor costs, bureaucracy, and the shortage of skilled workers. But we should focus more on the opportunities and work together to take advantage of them."

Mayer: "Above all, we must continue to invest in innovation, automation, and efficiency. We cannot compete with China when it comes to labor costs. This makes it all the more important to ensure the gap does not get too big. Just continuing is just not enough anymore. That is why we must be technologically superior and increase our productivity. At ZIEHL-ABEGG, we recognize how this can be achieved: By investing in modern manufacturing, industrial value creation remains competitive in Germany as well."

The interview was conducted by Ramona Hönl.

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https://www.trumpf.cn/en_CN/newsroom/stories/why-the-sheet-metal-industry-is-benefiting-from-the-ai-boom-an-interview-with-trumpf-and-ziehl-abe/