



Press Release

LASER trade show: TRUMPF makes manufacturing more efficient with artificial intelligence

Artificial intelligence (AI) ensures high quality in manufacturing for e-mobility // The AI solution has already proven itself in practice // Instead of programming, the user only needs to train the AI

Ditzingen/Munich, June 6, 2023 – The high-tech company TRUMPF has developed an AI application for lasers that makes manufacturing even more efficient. Electric car manufacturers, for example, can use it to produce more electric motors in less time. It also results in less rework and scrap. "In the future, we want to use AI to raise the overall system of lasers, optics, sensor technology and software to a new level of performance. We are therefore pushing ahead with the development of further AI solutions that will make laser processes in industry even more powerful and profitable," said Christian Schmitz, CEO Laser Technology TRUMPF. The AI process has already proven itself practically in series production for e-mobility and can be used in a variety of laser welding applications.

Artificial intelligence makes production significantly more robust

At the LASER - World of Photonics trade show, TRUMPF is now demonstrating to the public for the first time how AI supports laser welding: It is presenting its AI solutions EasyModel AI, which creates an algorithm and the AI Filter for VisionLine Detect, which applies that algorithm.

To ensure that the weld seam is always in the right place, the laser's sensor technology must position the weld geometry precisely on the component - otherwise there is a risk of rejects. Dirt or scratches on the component, poor lighting conditions in the work area or highly reflective materials such as copper make positioning difficult. The TRUMPF AI solution supports image processing and thus reduces such interference.

The user trains the AI solution

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The user must train the artificial intelligence before it is used. To do this, the machine setter marks the relevant component areas in the corresponding image medium. Programming knowledge is not required for this. Using this system is as simple and intuitive as using the painting and drawing programs that everyone knows from smartphones or computers. The AI model created by the training is then used in the AI filter for the VisionLine Detect image processing system.

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EasyModel AI

With the AI solution EasyModel AI, the user can create an algorithm.



EasyModel AI

With the AI filter, TRUMPF customers can easily apply the algorithm.



About TRUMPF

TRUMPF is a high-tech company offering manufacturing solutions in the fields of machine tools and laser technology. The company drives digital connectivity in the manufacturing through consulting, platform products and software. TRUMPF is a technology and market leader in highly versatile machine tools for sheet metal processing and in the field of industrial lasers.

In 2021/22, the company employed some 16,500 people and generated sales of about 4.2 billion euros. With over 80 subsidiaries, the TRUMPF Group is represented in nearly every European country as well as in North America, South America and Asia. The company has production facilities in Germany, France, the United Kingdom, Italy, Austria, Switzerland, Poland, the Czech Republic, the United States, Mexico and China.

Find out more about TRUMPF at www.trumpf.com



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