



## Press Release

### **TRUMPF's new busbar welding system extends e-cars' range**

**A combination of laser, processing optics and sensors boosts productivity // the new welding system speeds up e-car battery manufacturing // battery quality goes up, the reject rate down**

*Ditzingen/Munich, Germany, April 26, 2022.* The high-tech company TRUMPF's showcase at the Laser World of Photonics trade fair will feature a new welding system engineered to boost efficiency in e-car battery production. It serves to weld busbars – that is, the strips that provide electrical contacts in individual battery cells. Based on the 8-kW TruDisk 8000 laser, this new busbar welding system features a combination of new processing optics, new weld penetration depth sensors and software. All components are optimally matched. The system speeds up battery cell production and brings down the reject rate. The improved quality of the joint between the cells reduces electrical resistance, thereby extending the e-car's range.

#### **A closer look at the components of the new busbar welding system**

##### **8-kW TruDisk 8000 laser:**

The TruDisk 8000 high-power, solid-state laser delivers a combination of 8 kw of high power output and maximum beam quality. With these attributes, it can accommodate 50 µm laser light cables that apply the highest laser intensity on the part. With greater overall efficiency, a new energy-efficient pulse function and intelligent energy management, the TruDisk operates economically in every laser mode. It also has intelligence built in: Sensors keep track of all key parameters and furnish condition monitoring data. A compact footprint and a very robust design add to the TruDisk laser's appeal.



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### **New PFO33 scanner optics:**

At the core of the welding system is the third generation of scanner optics from TRUMPF. These optics come with an intelligent control system that constantly communicates with the laser. This ensures that each process is executed with repeatable precision in highly productive manufacturing processes involving very many welds. The optics also feature new lenses that can handle very brilliant beam sources so that the likes of the TruDisk 8000 may be used throughout the PFO33 scanner optics' workspace. Another outstanding feature is a special lens that is available for the optics. With this option, the busbars of multiple cells can be welded in a larger scan field without having to reposition the optics or component. The optics' mirrors move very dynamically. This affords manufacturers greater leeway in designing welding strategies and geometries. It also boosts efficiency on the production line.

### **The new VisionLine OCT Check weld penetration depth sensor:**

The VisionLine OCT Check sensor monitors penetration depth throughout the welding process to make sure the laser always welds to the preset parameters. It also checks the solidified weld seam for geometric inconsistencies. This enables highly repeatable contacting of the individual busbar joints and continuous quality assurance for each component and every weld seam. And that minimizes the need for manual quality checks. What's more, quality data sourced from the sensor system may be archived the moment the part has been machined. VisionLine OCT Check is easy to use and the sensor is readily and quickly programmed via an intuitive user interface.



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### TruDisk 8000

With greater overall efficiency, a new energy-efficient pulse function and intelligent energy management, the TruDisk 8000 operates economically in every laser mode.



### Scanner optics

The PFO33 scanner optics ensure that welds are executed reliably and with repeatable precision in highly productive manufacturing processes.



## 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 2020/21, the company employed some 14,800 people and generated sales of about 3.5 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](http://www.trumpf.com)

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