



— SABRINA SCHILLING

5 ways you can use OPC UA in your production

OPC UA has become indispensable in modern sheet metal processing. This universal interface technology facilitates secure, standardised communication between machines and connected IT systems. This enables data-driven improvements such as preventing downtime, optimising machine utilisation and identifying disruptive factors. Moreover, TRUMPF's OPC UA interfaces provide additional valuable functions that many users have yet to fully explore.

— 1. Improve material flow

TRUMPF's [OPC UA interface](#) makes it possible to improve the material flow in many of the high-tech company's machines. OPC UA simplifies tracking of 2D laser machines, punch laser machines and laser tube cutting machines, allowing you to easily identify which machine is currently processing which part and material. The interface goes even further by providing the IT system with information on whether each machine is currently loaded or unloaded. It also reports the levels of storage and emptying containers directly to the IT system. In future, OPC UA will enable automatic processing of tool magazine occupancy information as well. With access to this kind of machine data, you can reduce waiting times and downtime in your production network, for instance, due to a lack of raw materials or the need for machine retooling.

— 2. Better planning and forecasting

The OPC UA interface on your TRUMPF machine enables better production planning. It allows you to quickly and easily track how many parts of an order have been completed and when the machine will finish processing all the workpieces. In this way, you can determine if the actual production time aligns with the planned production time. In the event of delays, you can promptly inform your customers and adjust your subsequent processes accordingly.



3. Free choice of display format

Various display options are available for further processing of machine data through the OPC UA interface. In addition to the traditional dashboard on your monitor, you can also output the data through a Manufacturing Execution System (MES). Additionally, you can use the information to generate automated notifications or emails. Moreover, communication via OPC UA is independent of the operating system – so it doesn't matter whether you're using Windows, Linux, iOS or Android.

4. Guaranteed data protection

The OPC UA interface provides the highest level of data protection. The pertinent standard includes many security mechanisms, including electronic certificates and access rights. The German Federal Office for Security and Information Technology (BSI) certified the OPC UA standard back in 2015. No additional hardware is required to exchange production data in compliance with data protection regulations. The security mechanisms set out in the standard are enabled by default in all TRUMPF machines upon delivery.

5. Upgrading older machines for future compatibility

Do you have older TRUMPF machines in your production facility without an OPC-UA interface? If your legacy TRUMPF machine is equipped with the Remote Control Interface function, you can use the [Extension Cube](#) together with the OPC UA Retrofit software to read out the machine's signals.

Processing machine data is just as important as collecting it, as this step is the main requirement for unlocking its full value. This requires IT systems that can work with open interface standards like OPC UA. TRUMPF is tackling this challenge in collaboration with other industry, political and research partners through the umati network, established in 2017. Under the guidance of the VDW (German Machine Tool Builders' Association) and the VDMA (German Engineering Federation), members are developing OPC UA specifications for a range of industries and products. Through umati, TRUMPF is actively working to integrate solutions from the machine tools, laser technology and 3D printing sectors into IT ecosystems through standardised interfaces.



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