

PRESS RELEASE

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OPC UA for Machine Tools integrates inventory systems

New specification now also includes important shop floor data and KPIs

Frankfurt am Main, 10 August 2022. – A new version of the OPC UA for Machine Tools Companion Specification has recently been released. The Joint Working Group of the OPC Foundation is supported by the VDW and has produced a supplement that now makes it possible to integrate existing inventory systems. The collection of important operating data and KPIs gives rise to further advantages. Dr. Wilfried Schäfer, Executive Director of the VDW, is pleased with the progress: "The update of the specification for machine tools sees us pass a further important milestone. This will make the use of the Companion Specifications even more attractive in the future and ensure greater acceptance among industry clients. We hope to be able to provide demonstrations at the upcoming trade fairs. Our *umati* connectivity initiative showcases the open data exchange in a tangible form and naturally plays an important role in this."

Numerous OPC UA Companion Specifications for machine and plant engineering are currently being developed at great pace. They enable open interface standards based on OPC UA to be used between machines, devices and software and are being developed into a global production language under the leadership of the VDMA. Just under 50 such specifications have already been published or are currently under development. However, before the exchange of data via existing interfaces or systems can be translated into new, open standards, it is becoming clear, however, that future-proof technologies such

as OPC UA must first be broadly established on the market. This applies in particular to shop floor and machine data collection (SFDC and MDC), which are well established in the automotive industry. In most cases, however, customers apply their own in-house standards, which is an obstacle to widespread standardization.

Widespread standardization based on established systems

The new extension of the OPC UA for Machine Tools Companion Specification addresses this dilemma. The first version concentrated on the global monitoring of machine tool status, whereas the focus of the next step, version 1.01.1, is on collecting important operating data and key performance indicators (KPIs). The update is available now from the *umati* website:

<https://umati.org/ua4mt>.

The large number of company representatives involved in the process made it possible to incorporate their experience with all the different SFDC/MDC systems used by customers. Finally, almost all parameters that are currently used in these systems are included in the KPI extension. This makes it possible to use shop floor data in an OPC UA ecosystem through simple mapping or, during a transitional phase, also vice versa. Current initiatives such as the "Cadena-X" automotive network are clearly pointing the way toward integrative, platform-based ecosystems that will replace proprietary installations in the medium term.

Now that this milestone has been reached, Dr. Alexander Broos, Head of Research and Technology at the VDW, already has his sights firmly set on the next steps: "We plan to upgrade our *umati* demonstrator to include "pub/sub" (publish/subscribe) technology in the fourth quarter of 2022. This further simplifies the connection of machines and software by a significant degree yet also considerably increases the added value of the interfaces for cloud devices." Other upcoming developments include energy monitoring, job management and machine tending. All three are currently being developed by the OPC UA for Machinery working group in conjunction with the VDMA as part of

the harmonization efforts. In addition, an independent working group for additive manufacturing is to be established in the coming months. A new subgroup of the existing machine tool group has also been set up for forming technology.

Anyone wishing to view for themselves the benefits of a common world language of production for machine tool manufacturing and its customers, can do so at a series of international trade fairs starting in September. *umati* will have its own stand and be inviting visitors to live demonstrations and "Meet the Experts" meetings at IMTS in Chicago (Sept. 12-17, 2022, West Hall (Lakeside), Level 3), at AMB in Stuttgart, Sept. 13-17, 2022 (Hall 10, Stand 10A75) and at Jimtof in Tokyo (Nov. 8-13, 2022, *umati* stand in East Hall 8, Stand E8016). Under the direction of the VDMA, *umati* will also be present at other trade fairs.

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Technically speaking, the new version is a complementary facet of the OPC UA for Machine Tools (UA4MT) specification. A facet is a group of predefined parameters for a specific application. In the UA4MT, the KPI monitoring facet extends the basic profile to include parameters for

- Machinery state
- Machine operation state
- Errors and alerts
- Necessary machine operator interventions
- Efficiency parameters (parts produced in lifetime, finished parts counter, good parts counter)
- Maintenance status of machine (service, inspections, repairs, upgrades)

((INFOBOX))

umati will be on display at a number of trade fairs in the second half of 2022:

- IMTS, September 12-17, Chicago (USA)
- AMB, September 13-17, Stuttgart (Germany)
- Glasstec, September 20-23, Düsseldorf (Germany)
- K, October 19-26, Düsseldorf (Germany)
- Jimtof, November 8-13, Tokyo (Japan)

Further information can be found at www.umati.org

Background

umati (universal machine technology interface), supported by the VDW and VDMA, is the international community for the dissemination and implementation of OPC UA standards in machine and plant engineering. The goal of *umati* is to implement different OPC UA specifications in a uniform manner, thereby allowing the manufacturers of machines, components and software to offer genuine plug-and-play solutions to their engineering customers and users. Manufacturers and users are joining forces to promote the use of open interfaces in the production environment. This facilitates the communication of machines and systems with each other and allows them to be integrated into customer- and user-specific IT ecosystems – simply, seamlessly and securely. For further information visit www.umati.org.

Images:

Picture 01: The newly extended version of the OPC UA for Machine Tools Companion Specification now also collects important shop floor data and KPIs and enables the integration of inventory systems (image: Chiron Group SE)

Picture 02: Dr. Wilfried Schäfer, Executive Director VDW (image: VDW)

Picture 03: Dr. Alexander Broos, Head of Research and Technology at VDW (Image: VDW)

Graphics and photos can be found in the Press section at www.vdw.de or at www.umati.org under News. The VDW and umati can also be followed on social media:



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