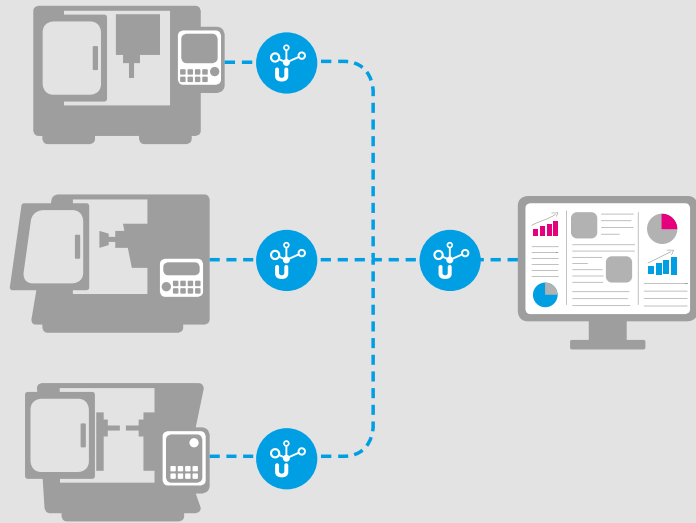


The easier machine tools exchange and share information, the more efficient they are. **umati** enables machine tools and peripherals to connect to customer-specific IT ecosystems.



How **umati** works: several machines with OPC UA servers in **umati** configuration are connected to one IT system with an OPC UA client.

umati – a network of strong partners

core partners



association partners



consortium partners



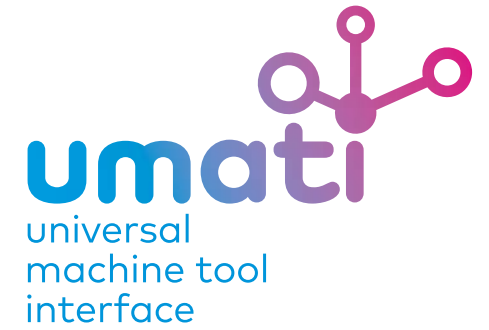
research partners



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umati Folder v3.1 EN 11/2019



connecting the world of machine tools

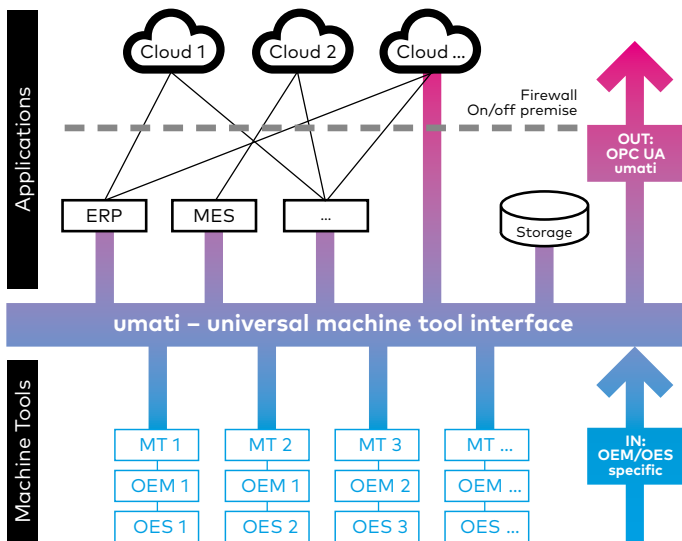
Eine Initiative des
An Initiative by **VDW**

universal machine tool interface

Connectivity is key for manufacturing in the 21st century. It means getting data in and out of devices and software systems – easy, secure and seamless.

For the benefit of machine tool users and the machine tool industry itself, **umati** tackles this issue by setting an open standard throughout the world. **umati** serves to exploit new potentials for the manufacturing of the future by reducing the effort for machine tool connection of customer-specific IT infrastructures and ecosystems by simplifying the interface. **umati** is still under development. It aims to provide:

1. an **OPC UA Companion Specification** to define globally applicable semantics for machine tools
2. **Communication Default Requirements** for the implementation of an OPC UA environment (e.g., encryption, authentication, server settings (ports, protocols) to allow plug-and-play connectivity between machines and software
3. **Quality Assurance** through testing specifications and tools, certification, and serving as ombudsman for supplier-client disputes
4. **Marketing and a label for visibility in the market** through a global community of machine builders, component suppliers, and added value services.



setting the standard

Creating a standard with global acceptance is a challenge. **umati** relies on OPC UA as the global interoperability standard. The standardization work takes place in the **umati OPC UA joint working group with the OPC Foundation. This guarantees maximum transparency and the support of a strong global community.**

OPC UA and the OPC Foundation

- provide a framework for standardized communication (HOW to communicate)
- allow focusing on defining WHAT is to be communicated (Companion Specifications)
- include a global community for revising the standard
- assist in global outreach by publishing the standard with no license fee.

For the first version the **umati** focuses on vertical integration of machine tools and production IT ecosystem. The following use cases for status monitoring (low update rates, read only) are being considered:

1. Identify machines of different manufacturers
2. Overview if production is running
3. Overview of parts in a job
4. Overview of runtimes for a job
5. Overview of machine tool state
6. Overview of upcoming manual activities
7. Overview of errors and warnings
8. Providing information for KPI calculations
9. Providing data for media and energy usage statistics
10. Providing an overview of tool data

For future versions, higher update rates and further use cases are foreseen:

- Operating status
- Part/material information
- Control data management
- M2M communication (Automation systems)
- Job file management
- Lifecycle information
- Process analysis
- Wear indications

umati@EMO2019 live demonstration

EMO Hannover 2019, the world leading trade show for metalworking, saw the premiere of an **umati** demonstration with truly global participation. At the same time, it was the largest live demonstration of an OPC UA community ever put to work at a trade show.

The demonstration served as a proof of concept that connectivity could truly be made easy, secure and seamless by using **umati** and OPC UA at the very special conditions of a temporary trade fair installation – **and it worked perfectly!** Thousands of visitors experienced live how the data flowed.

For more info and the full list of participating companies, connected machine and services, see www.umati.info/emo2019

70 companies involved **110** machines **28** software solutions **10** countries

