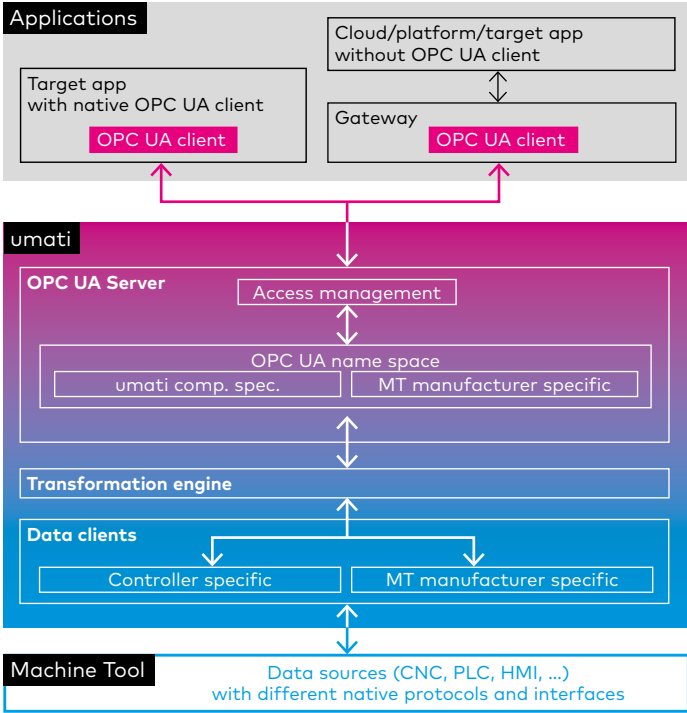


umati – quick facts

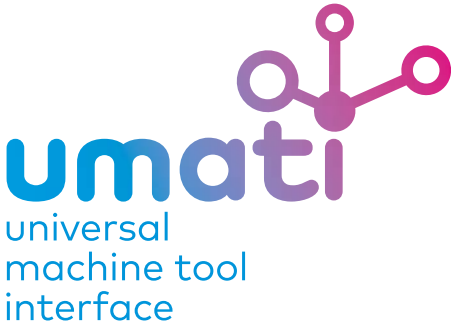
- umati:
- **reduces costs** through faster realization of customer-specific projects.
 - **simplifies and reduces** the effort for machine connection to customer IT infrastructures.
 - is an **open standard** based on OPC UA.
 - is developed by the **machine tool industry** for its customers.
 - enables **individual mapping and transformation** of parameters by standardized input for customer- or manufacturer-specific configurations of machine tools.
 - aims to **global deployments** right from the start.
 - integrating the OPC UA Companion Specification is **free of license fees**.
 - offers individually developed **software components** (to be licensed, if applicable).
 - can be licensed as **brand for products** (certification etc.).



umati – an initiative by VDW and a network of strong partners



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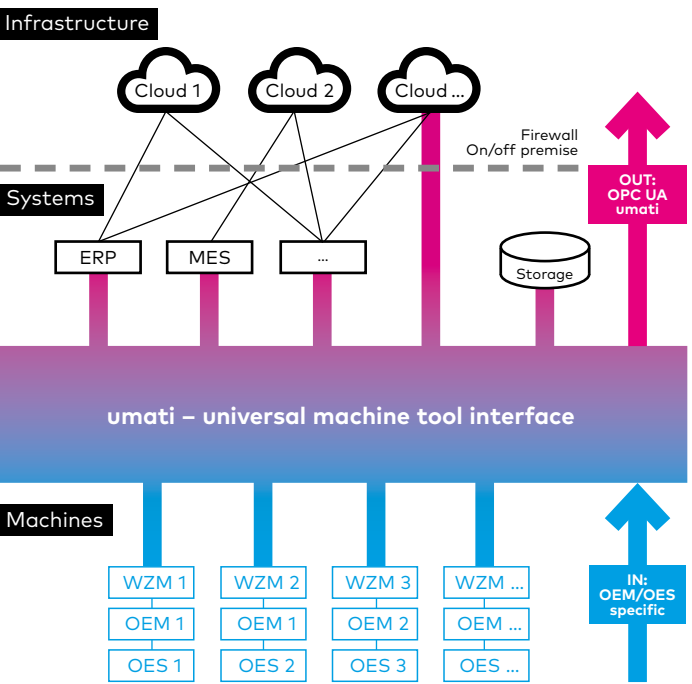


connecting the world
of machine tools

umati – the universal machine tool interface

There's no better connection than that of a common language – which is also true for machine tools. The easier they exchange and share information, the more efficient they are. In a joint effort, 17 partners and VDW created umati. It enables machine tools and peripherals to connect to customer-specific IT ecosystems – easy, secure, and seamless. umati is an open standard for machine tool users throughout the world. It serves to exploit new potentials for manufacturing of the future.

The VDW is a member of the OPC Foundation and thus part of the OPC UA community. Via Cecimo, the European machine tool umbrella association, and its counterparts in the United States, South Korea, China and Japan, VDW is firmly tied to the international machine tool environment.



umati – what is the object of standardization?

umati has set itself the goal to create the standard for connecting machine tools to IT systems in the production environment (vertical integration). In the long term, the following parameter groups are covered:

- Uniform machine identification
- Operating state of the machine tool
- Information on production order
- Supply information (energy, material)
- Tools and workpieces
- Storage systems
- Forecasts on user interactions

The focus is on data with an update rate of approx. 1 second. At first, use cases for status monitoring of machine tools are standardized, e.g.:

- Fast overview if production is running
- Job overview, job order
- Errors, alerts and interruptions
- Machine status, state of operation
- Information about upcoming manual intervention
- Unified identification of machine tools from various suppliers
- Data analytics (program run time, errors, interruptions, energy and other consumables)
- OEE analysis
- Tool management

Live demonstration at AMB 2018

In September 2018, the project group presented a live demonstration of umati at an international metalworking trade fair.

- 18 machine tools
 - built by 9 manufacturers
 - equipped with controllers from 5 suppliers
 - connected to 8 communication partners (e.g. MES/Dashboards)
- exchanged data on the basis of a common OPC UA information model (umati) successfully.

Manufacturers	Controls	Communication partners
CHIRON	Beckhoff	ADAMOS
DMG MORI	Bosch Rexroth	EMAG MultiMachine Monitor
EMAG	Fanuc	GFMS rConnect digital services
GF Machining Solutions	Heidenhain	GROB-NET ⁴ Industry
GROB WERKE	Siemens	IGH
HELLER		Liebherr Manufacturing System LMS 4.0
Liebherr-Verzahntechnik		Siemens MindSphere
Pfaffner (FFG-Gruppe)		UNITED GRINDING Digital Solutions
UNITED GRINDING Group		

Dashboard in action (umati demo at AMB 2018).

The dashboard displays a list of machines and their status over time. A circular logo in the bottom right corner reads "connected device umati universal machine tool interface".