

## “MTConnect Boot Camp Day 1”

**Audience:** Managers, Supervisors, Decision Makers, Developers, IT Personnel

This day will provide a general overview of the standard, its implementation, and what is possible with its use. This portion serves as a prerequisite for day 2.

**Pre-requisites:** None

**Required Equipment:** Laptop PC with Windows XP or later that has a wireless network adapter.

**Supplied Equipment:** Jump Drive with Presentations, Vendor product Brochures, Mazak MTConnect information, and Software tools for participating in the class demonstrations.

## Syllabus

What Is MTConnect?

- Institute Mission Statement
- Goals
- Who is the “MTConnect Institute”?
- What makes it different from other Industrial Standards

How does it Work?

- Extensible Markup Language (XML)
- Hypertext Transfer Protocol (HTTP)

What Info is available through MTConnect?

- MTConnect Vocabulary

What can I do with MTConnect?

- Utilization
- Real Time Dashboards (Machine status, Maintenance Monitoring)
- OEE (Good parts/ bad parts. Requires more operator involvement)
- Preemptive Maintenance (Log temperatures, loads, vibration, coolant levels, coolant temps, PH)
- Tool Management (ISO 13399. Universal Tool management System)
- Automation Integration. Really?
- Bar feeders (v1.3)
- Robots(v1.3)
- Compositions(v1.4)
- Metrology (v1.5)
- Parts Data (v1.5)

How do I get started?

- Target Initial machine(s)
- Networking
- Choosing a Vendor for Client Software
- Expectations / Plant review
- Productivity
- Resources Available

Security

- SmartBox

iSmart Factory Tour

## “MTConnect Boot Camp Day 2”

**Audience:** Developers, IT Personnel, Tech Support Personnel

**Pre-requisites:** Day 1

This day will dive deep into the ‘nuts-n-bolts’ of MTConnect. What are, and how do, Adapters and AGENTS work. We will not be developing (coding) Adapters or Agents, but we will have an in depth discussion of each and will be Installing, testing and troubleshooting them.

**Required Equipment:** Laptop PC with Windows XP or later that has a wireless network Adapter.

**Supplied Equipment:** Jump Drive with Presentations, Vendor product Brochures, Mazak MTConnect information, and Software tools for participating in the class demonstrations.

## Syllabus

Networking Devices

XML

- Basic Terminology as it relates to MTConnect

Adapter and Agent Relationship

Adapters

- What are they?
- Why are they not part of the standard?
- How do they work?
- Output Format (Institute Adapter SHDR format)
- Testing tools
- Polling times / Accuracy of data

Agents

- What are they?
- How do they work?
- Agent Buffer, Sequence Numbers
- Instance ID
- Error Logging

Device files

- XML format
- MTConnect SCHEMA

Configuring Stand Alone Agents

- DEBUG mode
- RUN mode
- Installing as a Windows Service application
- Setting Parameters
- Polling Times
- Universal Time Coordinate (UTC)
- Adapter vs. Agent vs. Server Time
- Part Count Issues
- Multiple Adapters (Adding Sensors to Existing Installations)

Querying Agents (Efficiently)

- Standard Buffer
- Assets Buffer

What’s coming in the next version of the specification