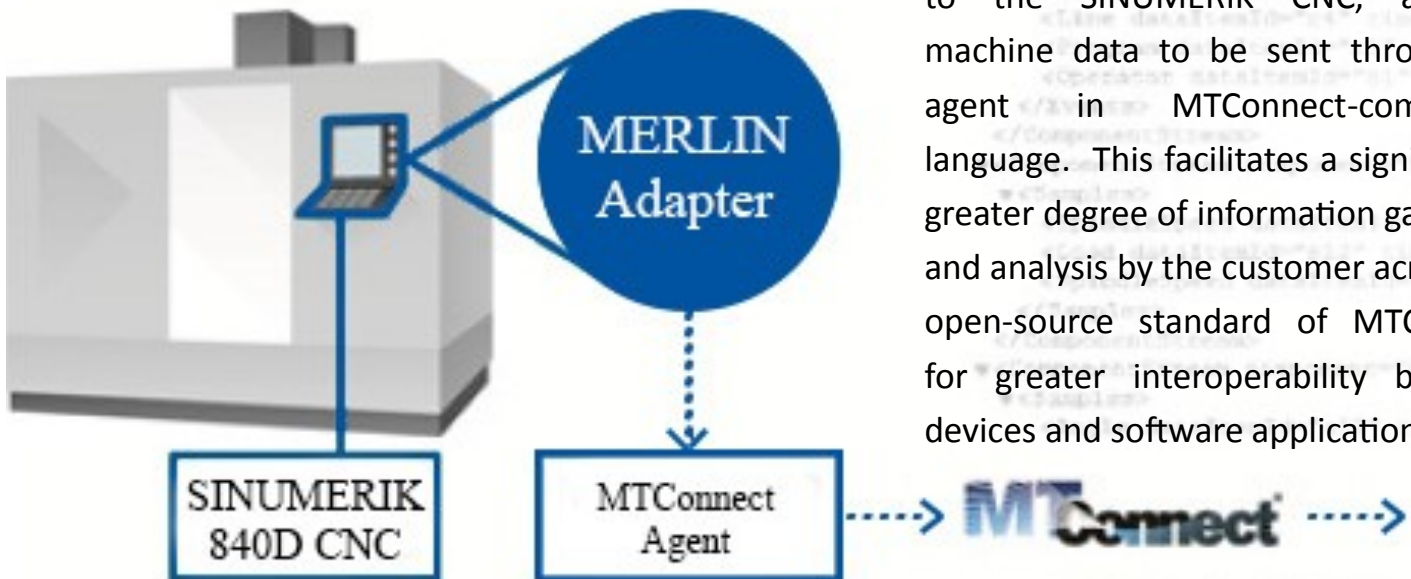## *Memex Automation's MERLIN Adapter Software*

Memex Automation offers solutions to those organizations with SINUMERIK 840D CNCs who are interested in or who have already implemented MTConnect in their factories. Memex applies its Adapter Software to the Siemens SINUMERIK 840D which enables data transfer through an MTConnect Agent. The data can then be stored and evaluated in an overall equipment effectiveness (OEE) strategy.

Memex has made the MTConnect Adapter available for the SINUMERIK 840D CNC's in a way which allows complete flexibility. The Adapter Software is compatible with:
1. SINUMERIK 840D Powerline CNCs running HMI-Advanced on PCU
2. SINUMERIK 840D Solutionline CNCs running HMI-Advanced or SINUMERIK Operate on PCU
3. SINUMERIK 840D Solutionline CNCs running an embedded SINUMERIK Operate system on NCU.

This schematic illustrates the typical scenario for a machine tool control modification at an end-user, where the Memex Automation software is added to the SINUMERIK CNC, allowing machine data to be sent through an agent in MTConnect-compatible language. This facilitates a significantly greater degree of information gathering and analysis by the customer across the open-source standard of MTConnect for greater interoperability between devices and software applications.

Manufacturing **E**xecution **R**eal-time **L**ean **I**nformation **N**etwork

MERLIN is a Manufacturing Operations Management System for the communication and execution of production, ***Connecting the Shop Floor to Top Floor.***

The adapter will collect the following basic machine information from the Siemens SINUMERIK 840D CNC and send the current data to MTConnect Agent software (open source software developed by the MTConnect Institute). This allows the Agent software to provide machine information in an MTConnect compliant data stream.

- **Axes** (X/Y/Z/A/B/C/other, depending on machine specifications)
  - Position (Actual)
  - Load
- **Spindle** (single or multiple, depending on machine specifications)
  - Speed
  - Load
  - Speed Override (%)
  - Direction
  - Mode (INDEX or SPINDLE)
- **Feed Rate**
  - Actual and Commanded
  - Feedrate Override (%)
  - Rapid Feedrate Override (%)

- **Controller Status**
  - Execution Mode
  - Program
  - Block
  - Line
  - Part Count
  - Path Position
  - Message
  - Program Comment
  - Single Block
  - Tool ID
  - Tool Name
  - Emergency Stop
- **Condition**
  - System (showing Machine's Alarm messages)

Additional data items from the SINUMERIK CNC can be collected by customizing the Adapter. An OA (Open Architecture) runtime license is required, which may be provided by the Machine Tool Builder. For HMI Advanced use Siemens P/N 6FC5800-OAPO2-OYBO; for SINUMERIK Operate (Run MyHMI) use Siemens P/N 6FC5800-OAP6O-OYBO.

About Memex

Memex Automation Inc. has been recognized as a global leader of the manufacturing M2M (machine-to-machine) field, and is continuously improving its products to better suit the needs of the manufacturing world. Its flagship product, MERLIN, is the premier industrial Internet platform solution for manufacturing. It is a hardware and software machine monitoring solution, a Manufacturing Execution System (MES), and is an industrial Internet communications platform that connects the last meter to the machine.

WE MEASURE THE *SHOP* FLOOR—*YOU* MANAGE THE *TOP* FLOOR

To explore machine monitoring, please contact the Memex Sales Team, or call 1-866-573-3895

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