Industrial Internet of Things using Modern Protocols for Health Monitoring

Joel Neidig, Technology Manager
A continued commitment to excellence...
Where do our components go?

- Tractors
- Haul trucks
- Mining shovels
- Wind turbines
- Land-based satellites
- Off-shore rigs
Implementation

Software Application/MTConnect Client

MTConnect / Network

MTConnect Agent
- Add-On MTConnect Adapter
  - Wheelabrator Shot Peening Machine

MTConnect Agent
- Built-In MTConnect Adapter
  - Okuma CNC Lathe

MTConnect Agent
- Add-On MTConnect Adapter
  - Niles Gear Grinder
Hardware Adapters for Legacy Machines
Energy Monitoring

Energy Consumption

- Simple
- Custom
- Advanced

Criteria
- Day
- Week
- Month
- Today
- Yesterday
- Choose Day

- Include only Business Hours
- Include only Business Days

About Energy Report
- Help on Energy
- Selecting Inputs
- Interpreting Graphs

Machines

- AZ100 (1)
- AZ500 (1)

Select all

Show $""
Video Monitoring

M5213 (Niles ZPI 25) Daily Status

ITAMCO

ARGOS FACTORY
- A: Gear Grinding
  - M5207 (Futaen PE160)
  - M5204 (Niles 2440)
  - M5213 (Niles ZR 25)
- A: Milling
  - M1814 (SL & VMC)
- A: Turning
- A: Sawing

PLYMOUTH FACTORY
- P: Allison
  - M1420 (LC50)
  - M1818 (Ozuma MC4MA)
  - M1817 (Ozuma MC4MA)
  - M1704 (Ozuma MC60P)
  - M1715 (Ozuma MC60H)
  - M1720 (Ozuma NA60F)
  - M435 (Ozuma LC50)
  - M440 (Ozuma L825)
  - M3005-600 (Grinder)
- P: Milling
  - M1715 (Ozuma NA60F)
  - M1717 (Ozuma NA60F)
MES Integration Architecture

QUPID → Machine → Sensor

Machine → Machine MTConnect Adapter

Sensor → Sensor MTConnect Adapter

MES MTConnect Adapter → Agent
QUPID Mobile App (MES)
Request a Pickup
Information Model -- Flow

Use cases:
Dynamic planning & scheduling
Replanning / rescheduling
Machine health and preventative maintenance
Adding new equipment and discovery

MTConnect Agent is the core of the data exchange
Thank you!

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