IIC and OPC Foundation
Raleigh Liaison Workshop
End User Perspective on IIoT for Pharma

**WHEN:** Feb 14, 2019, 3:15-6:30pm
**WHERE:** Hilton Raleigh North Hills Hotel
            3415 Wake Forest Rd
            Raleigh, NC 27609 USA
**CONTACT:** info@ii consortium.org
End User Perspective on IIoT for Pharma

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Edge Device Environment
Pharmaceutical and Biotech industries

• A lot of control, even more sensing, and even more data collection
• Because
• Very high value of products
  • Tens to hundreds of millions of dollars for a single batch
  • Can fail because of a single sensor failure and loss of the electronic record
• 2-to-1 to 10-to-1 ratios between sensors and actuators
• Packed (skid mounted) equipment can be very complex
  • Filters, tabletizers, device assembly, device testers, cartonizers, ...
  • Reactors, fermenters, dryers, ...
  • Continuous processing equipment
IIoT Edge Device Environment
Pharmaceutical and Biotech industries

• Today DCS is the common control environment
• But, moving to edge devices performing control
  • Devices are becoming “smarter” and doing more edge processing of data
  • More complex data is being exchanged
    • Sensed value, equipment/sensor maintenance status, health status, multidimensional data, ...
  • Many “unique” devices
    • Implementing a unique information model of a real-world device
  • Single use equipment and mobile equipment is common
• Process Industry embracing IIoT and smart devices
The Leading Edge Manufacturers

• “Ethernet” is the preferred network solution
• Security of device information is required
• Data Integrity of generated information is required
• Complex data types required
• Control at the edge required
• “Open” standard needed to reduce integration costs
• Only industrial solution meeting these needs is OPC-UA
OPC-UA Companion Specifications

- Only open industrial solution meeting these needs is OPC-UA
  - OPC-UA Open-SCS Companion Specification
    - (industrial printers, scanners, MES, ...)
  - OPC-UA PackML Companion Specification
    - (filters, cartonizers, device assembly, palletizer, ... any device in a production line)
  - OPC-UA Analyzer Device Companion Specification
    - (spectrometers, chromatographs, particle size analyzers ...)
  - OPC-UA AutoID Companion Specification
    - (barcode, OCR, 2D code, RFID, NFC ...)
  - ...

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