

# 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  
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# 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

# IloT 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 IloT 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 ...)
  - ...