FieldComm Group is the Home of HART, FOUNDATION Fieldbus and FDI Technologies
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formed in 2015 • global organization • 370+ members
Process industry in IIoT – where are we headed?

- Vision – what is the PA architecture of the future?
- How does this affect our users – what are the new challenges?
- How will standards organizations help in response?
- How does it affect the workforce?
Vision – PA architecture in IIoT

- **Revolution:** New architectures will be required
  - Merging of IT and OT drives new culture and user collaboration
  - Cloud and premise-based analytics require organized data
  - Must take into account installed base and suppliers
  - Multiple options, some more disruptive than others

**Evolution:** Users will decide how much/how fast
NAMUR Open Architecture

- Based on available FDI and OPCUA technology
- Open for new approaches within IIoT and I4.0 concepts
- Nor risk on availability and safety for installed base
- Enables significant improvement of cost per sensor

Enable the installed base for IIoT and I4.0 concepts
Vision – Field Devices in IIoT

- Increased need for field devices to feed valuable data
  - Leverage stranded data from field devices with valuable supplier apps
  - Wireless expansion for additional data points
  - Pure digital protocols
  - Faster HART protocols

- What will the field device protocols of the future look like?
  - A new physical layer replacement on Ethernet?
  - An all wireless plant like IoT in our homes?
  - New IT-based protocols?
Are Automation Protocols Becoming Obsolete?
Automation Protocols are Here to Stay

It’s not about the protocol. It’s about the information that the protocol supplies and how that information, when easily connected and integrated enterprise wide:

- Reduced cost
- Improved safety
- Higher output
- More profit

Some are better than others for specific user needs…

- Can’t run wires? Use WirelessHART!
- Need high-speed? Use Ethernet!
- Need simple and reliable? Use HART!
- Need to minimize cabling? Use FOUNDATION Fieldbus!

50+ million field instruments with various protocols installed worldwide.
ALL future architectures must accommodate existing protocols!

Users will not rip out field devices, the problem simply becomes how to integrate the data from them into system and cloud applications.
Simple Integration

FDI

One Device - One Package - All Tools
Connect Everywhere

YOU CAN
HART in the Cloud

Asset Information from FDI
Information Model Server

Process Information from FDI
Information Model Server

Standard Web Page

Commercially Available IoT
Platform: Iconics IoTWorx
HART in the Cloud

- Cloud information integration of 30 year old HART technology.
- 100% Standards-based
ask4FDI.com

- User focused – educational website
- Sample RFP language
- Directory of available FDI products
- Protocol Neutral
FDI Product from members
Compliance Testing & Registration

- A Product bearing the Registered Mark undergo a rigorous testing process
- FieldComm Group governs the overall process – for all supported communication protocols
Specify FDI Device Packages & Registered Products for Secure, Stress-Free Integration in the IIoT world
New Registry

- Obsoletes “old” FF and HART product catalogs
- Registry built on Azure based repository
- Only registered products
- 1,600 records at launch

www.fieldcommgroup.org/registered-products
Summary

- Digitalization will drive new architectures to leverage available data
- Users will not “rip out” field devices rather need a way to integrate them
- FDI has been adopted as the industry standard Integration technology
  - Namur
  - OPA F
  - IEC
  - ISA100
  - Profibus (co-owner), FDT, OPC
- FDI adds a layer of standards for FCG to manage and certify against
- The FDI device package is the best approach with current and future field devices
- PA-DIM gives users the ultimate solution of a data standard for the PA industry
Technologies need People
Work force changes demand digitalization

BY 2025, ROUMLY 75% OF THE GLOBAL WORKFORCE WILL BE MILLENNIALS
(Forbes magazine ©)

- Reduction of plant asset expertise requires automation
- Collaborative culture and inclusive workplace where groups solve problems together
- Flexibility expectation to work remotely or at home
- Experience and demand for modern tools
- Familiarity with IT, networking, cloud, wireless…. et. al.

“Creating an attractive and sustainable workforce that looks more like the future than the past is one of the most meaningful things that organizations can do to secure the best workers of the millennial generation”
(Forbes magazine ©… Mark Hall)
Gaining more Value from people

TODAY

- Analytics
- Knowledge
- Maintenance
- Setup
- Wiring Protocols

TOMORROW
Value Opportunity

Technology shifts
- FDI… standardized integration
- Leverage value from existing installed base
  - Stranded data
  - Embedded apps by Suppliers (Heartbeat™ and others)
- Wireless
- Mobile device, augmented reality

Require skill set shifts
- IT skills
- Networking
- Data and information model understanding
- Analytics
- Predictive applications
Change is needed

VALUE IS ONLY GAINED WITH CHANGE

- Cross-departmental business processes
- IT/OT collaboration
- Expertise-based Monitoring and Diagnostic centers
- Training
- Adding sensors for more data points
- Employ Predictive analytics
Smart Industrial Safety by Digitalization

- Shift unplanned maintenance to planned
- Avoid catastrophic failures
- Prioritize highest severity problems
- Condition-based shift to focus maintenance resources on potential risks
- Security and Safety intelligence provided real-time for quick response
- Remove people from hazardous areas
Value opportunity for digitalization - People

PEOPLE STILL MAKE THE DECISIONS, they are simply:

... higher value decisions
... data-driven decisions
... measurable decisions
... evidence supported decisions
... collaborative decisions
Thank you!
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