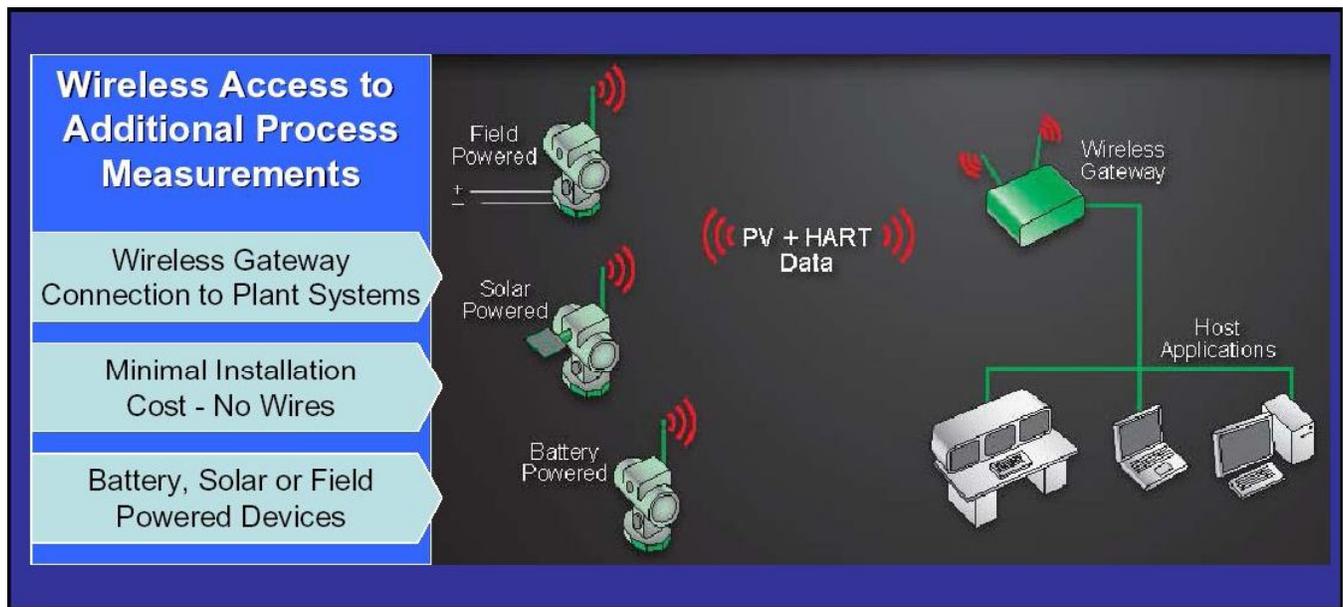
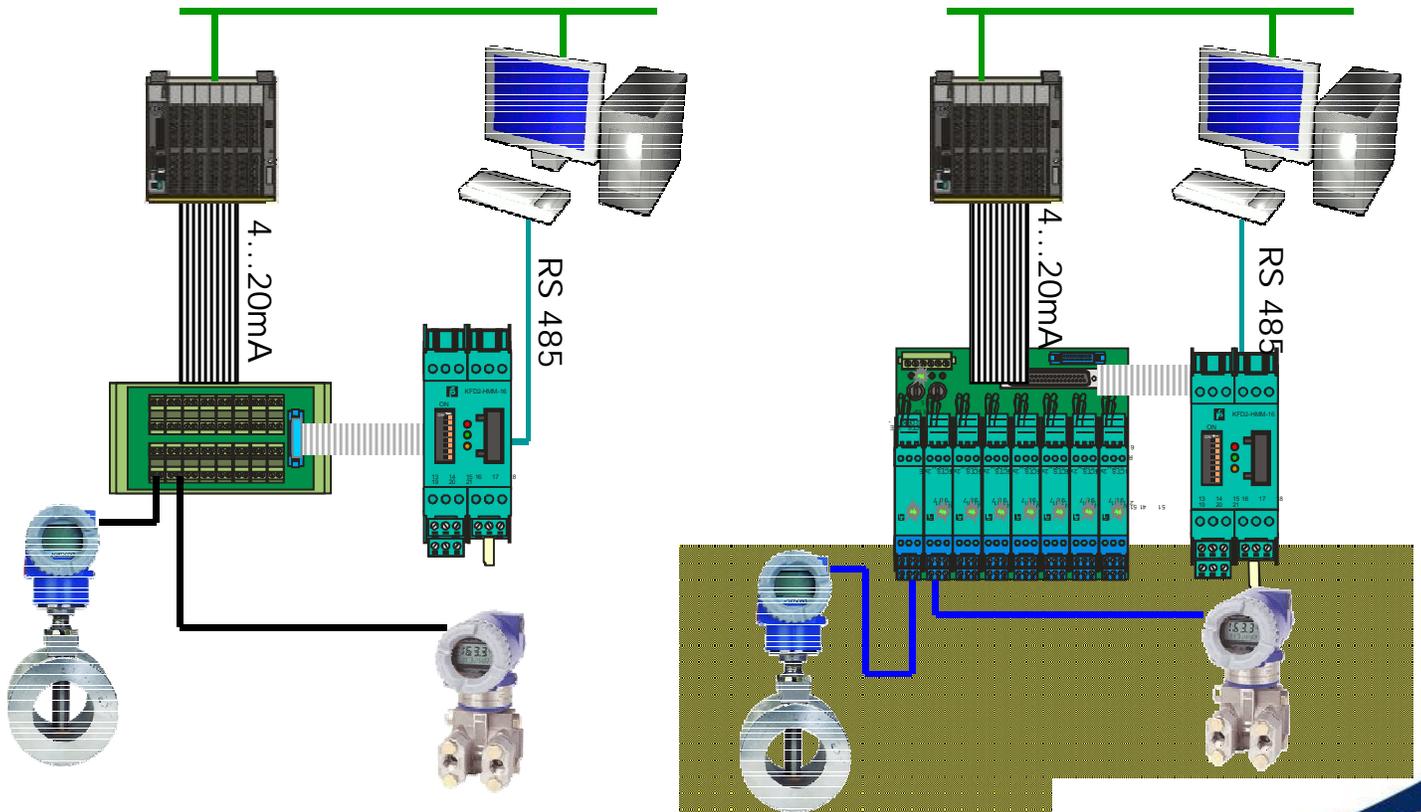


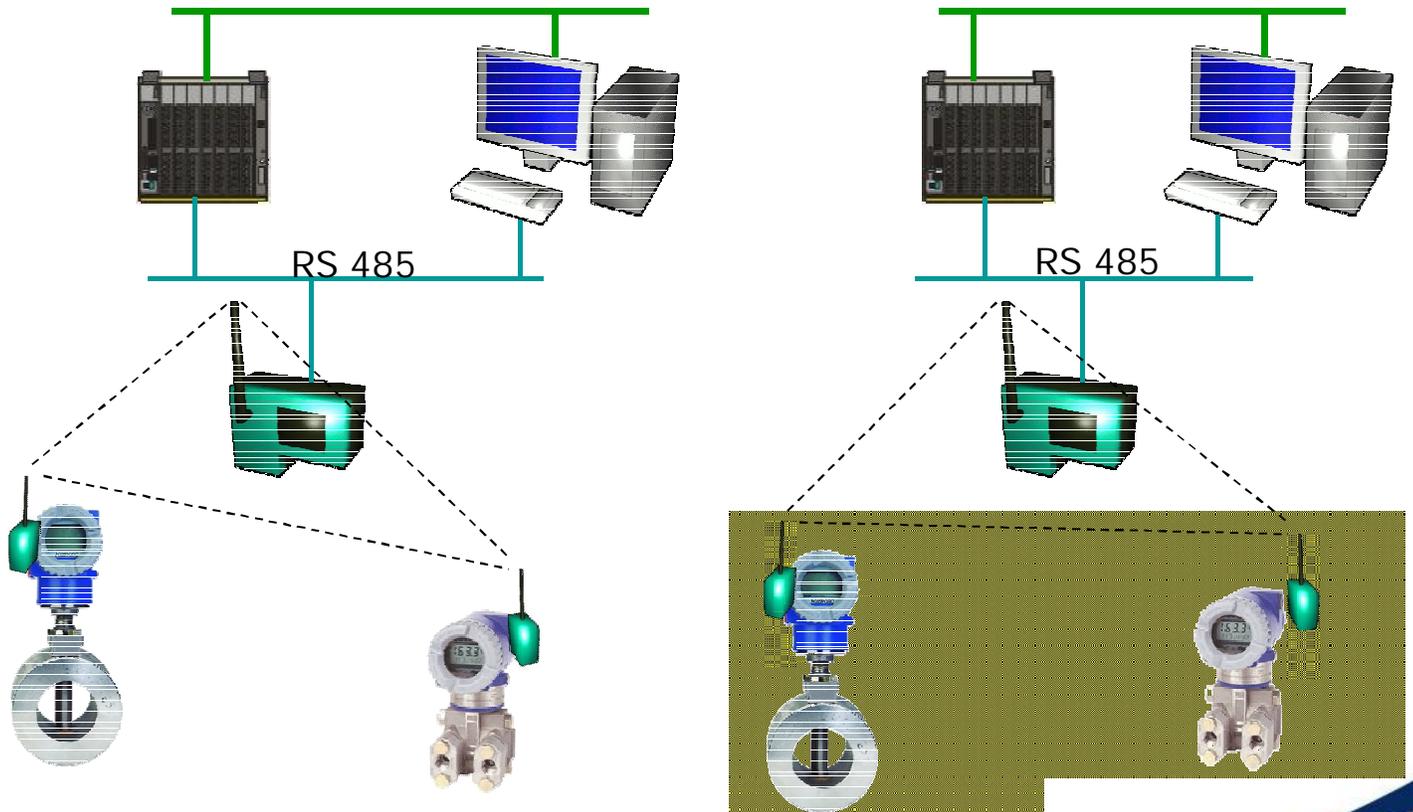
# Wireless Devices for Measurement or PAM



# Layout of Wired HART Structure

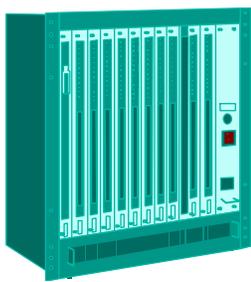


# Layout of WirelessHART Structure

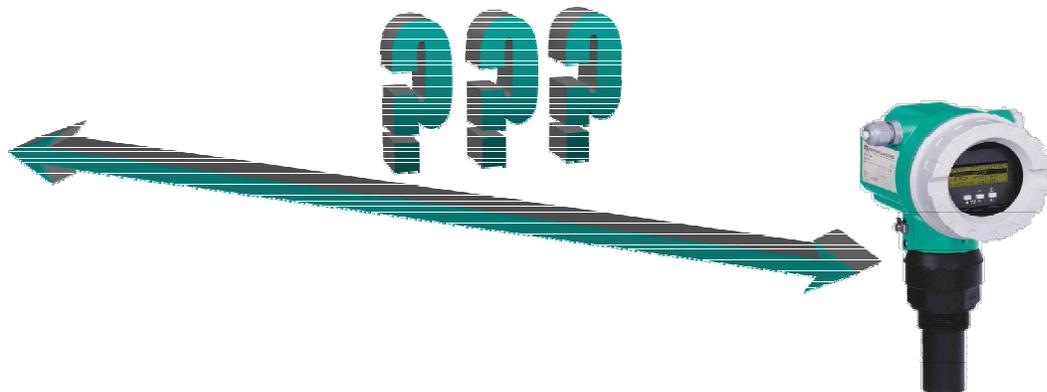


## What is Fieldbus?

Fieldbus is a digital, two-way, multi-drop communication link among intelligent measurement and control devices. It serves as a Local Area Network (LAN) for advanced process control, remote input/output and high-speed factory automation applications.



**HOST**

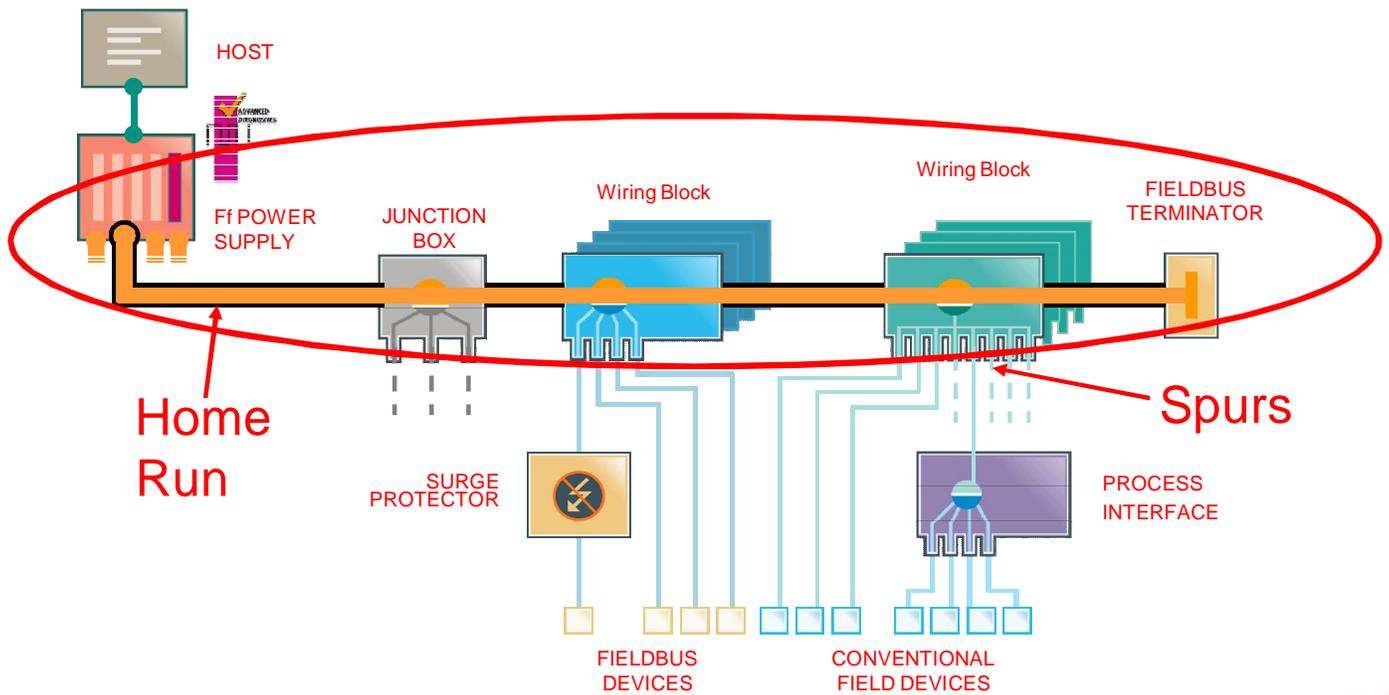


**Field Device**

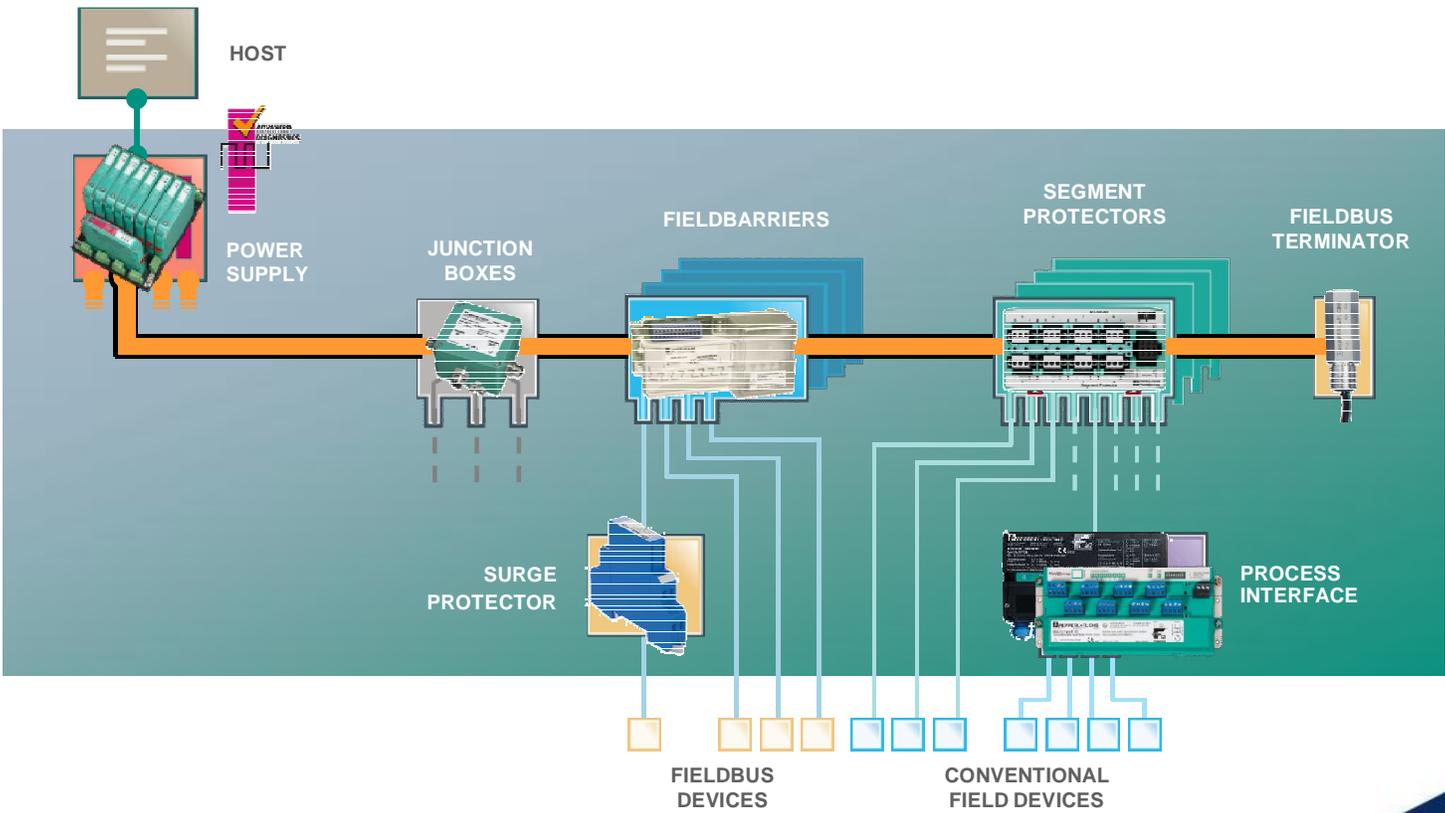
**How Do we Link the Various components in the network?**

## Main components of physical layer

FF - Power Supply, Cables, Surge Protector, Terminators, Wiring Blocks, Process interfaces etc



# Typical FOUNDATION<sup>®</sup> Fieldbus Layout



# Diagnostics in Process Automation today



- DCS with intelligent hosts
- Asset management and diagnostics
  - Predictive maintenance



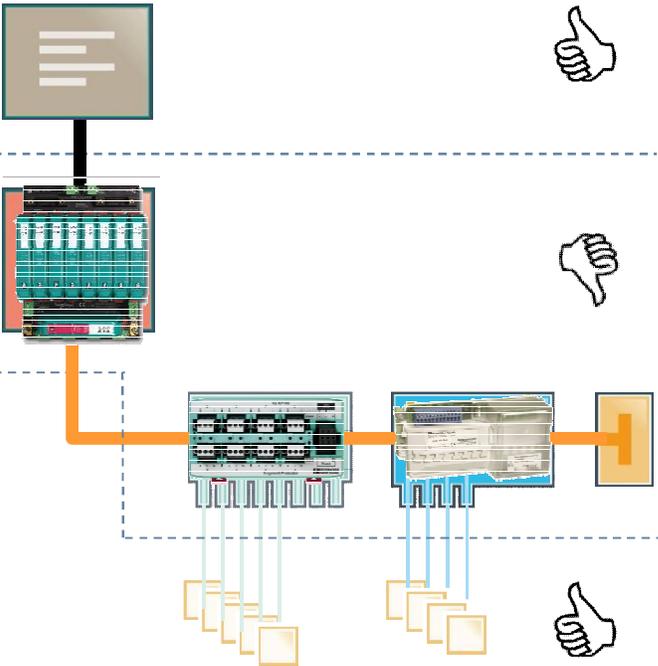
**Fieldbus infrastructure**

- Simplistic tools
- Physical layer diagnosis
- Reactive maintenance
- Predictive maintenance



Field instrumentation

- Diagnostic data available
- Predictive maintenance





## The need of Physical Layer Diagnostics

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- The quality of the fieldbus physical layer is more critical compared to 4-20mA
  - One failure on fieldbus physics can effect several devices connected to a segment
- To determine the quality of a fieldbus segment a high degree of technical knowledge and sophisticated electronic equipment is necessary

## The need of Physical Layer Diagnostics

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- Each component connected to a fieldbus segment could influence the quality of a physical layer
  - Host
  - Power supply
  - Terminators
  - Current limiting devices (Segment Protectors, FieldBarriers)
  - Field devices
  - Cable
  - Topology
  - ...

## Typical locations and Fieldbus issues

