



Vibration Condition Monitoring with ISA100 Wireless™

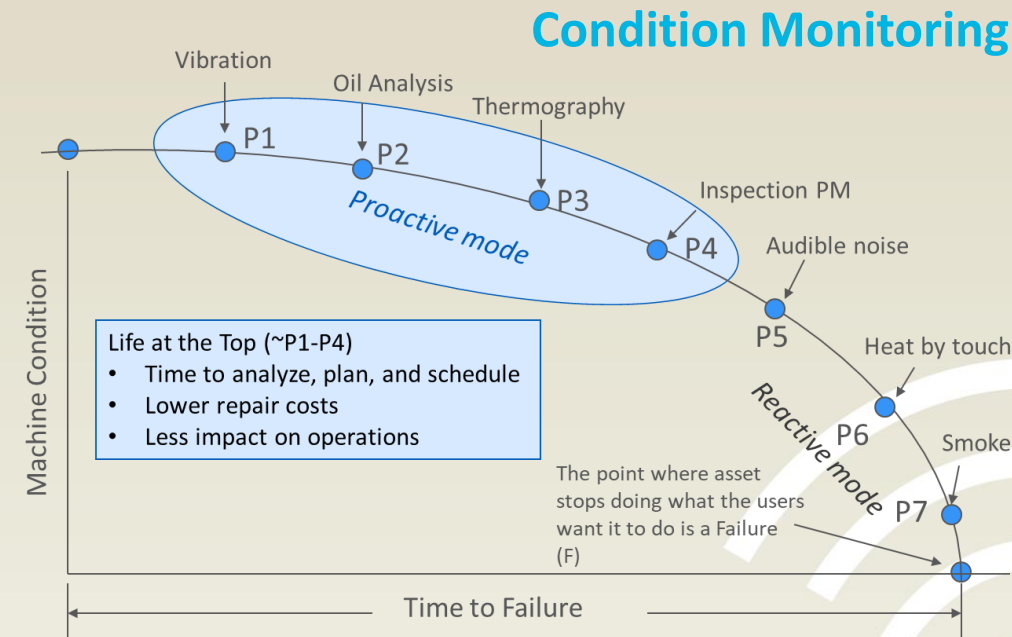
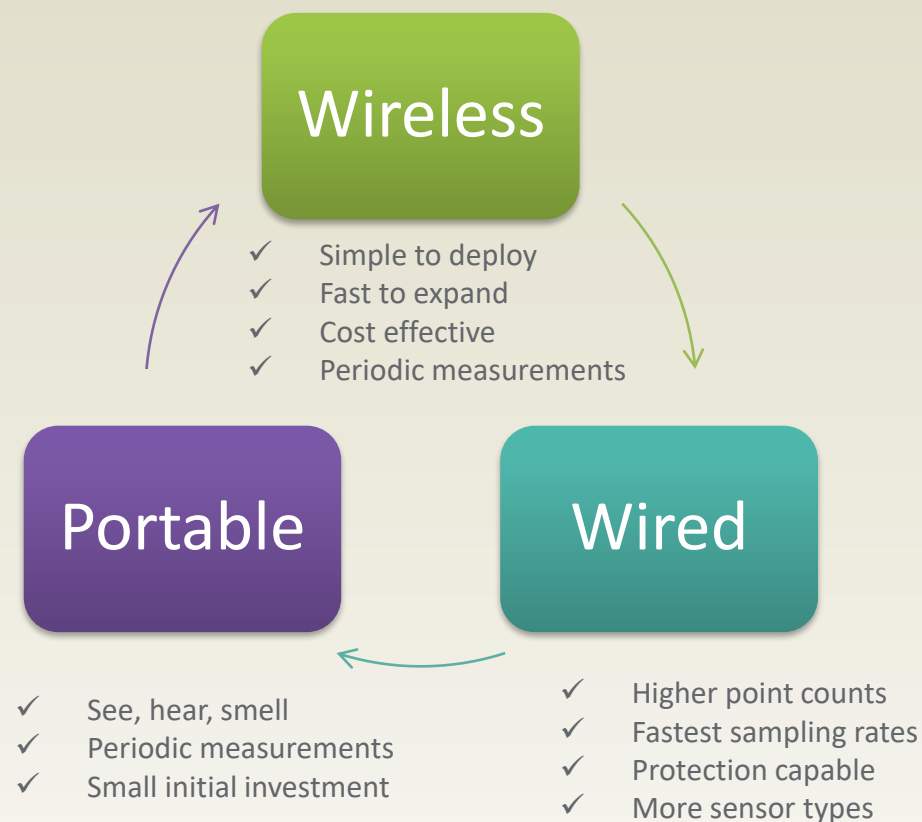
Presenter:



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Condition Monitoring and Wireless



	Portable	Wireless	Wired
Data Frequency	Good	Better	Best
Installation & Deployment	Better	Best	Good
Sampling Rates	Good	Better	Best
Protection	n/a	n/a	Best
Investment \$			

Wireless areas to consider

- Range – distance between sensor & gateway
- Protocol – Proprietary or open
- Data Bandwidth & Frequency – Simple/rich data & how often
- Power Source – Battery life, availability, ease of maintenance
- Security – Encryption methodology

Ranger Pro

- ✓ Productivity ... more assets under surveillance
- ✓ Reliability ... more frequent asset information
- ✓ Safety ... hazardous or difficult to access areas
- ✓ Security ... 128bit AES
- ✓ Cost ... low installation and deployment costs



ATEX Zone 0, CSA Class 1 Div1



ISA100 Protocol



User Friendly



More assets under measurement

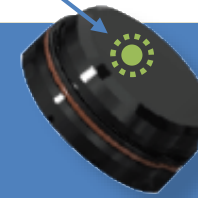
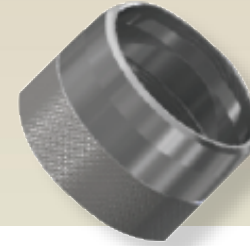


Triaxial vibration + temperature



Ranger Pro Specifications

Radio E-module
ISA100

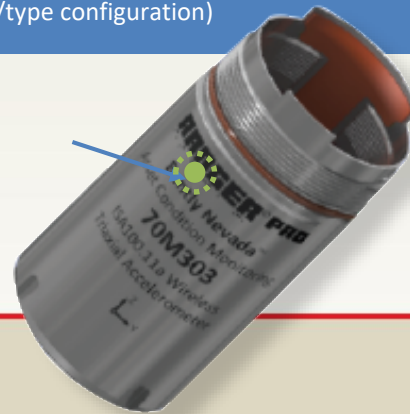


3.5" (89 mm)



1.6" (41 mm)

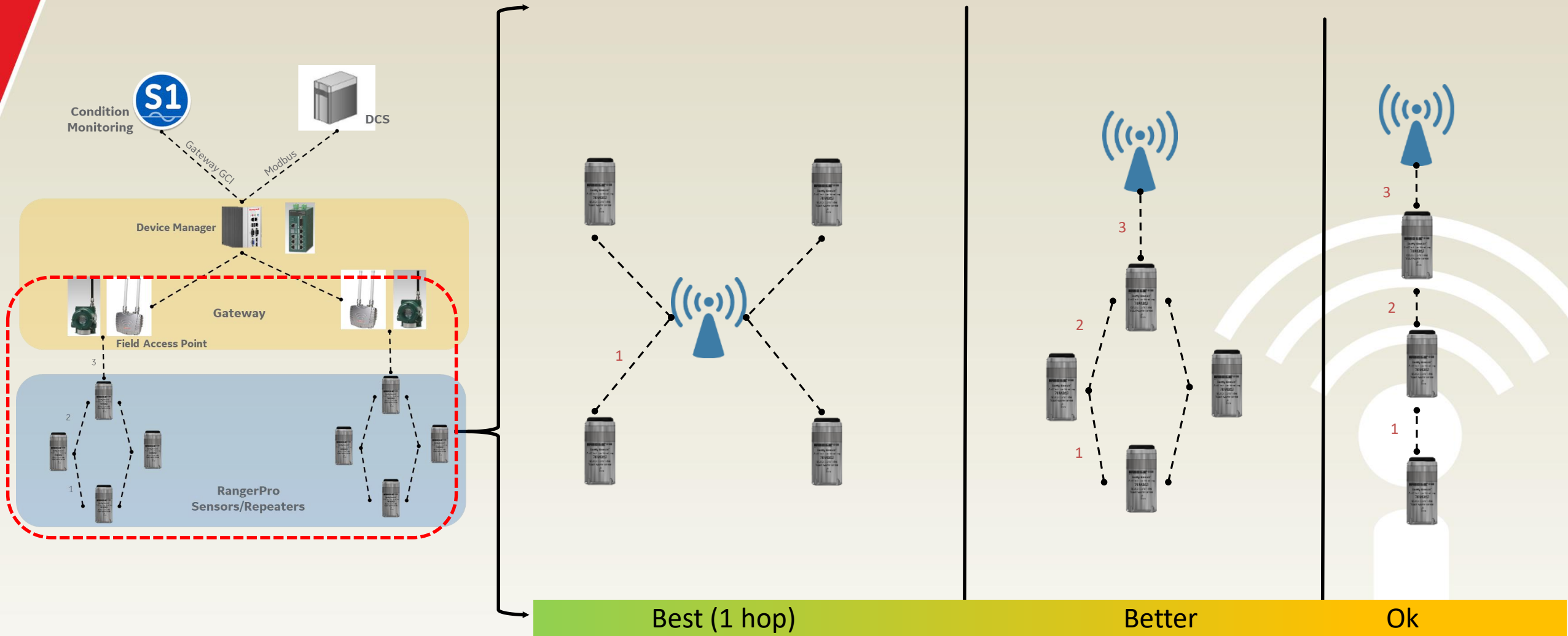
Triax or single embedded
vibration sensors



Standard battery size ... Bently provided Or
locally available for end user procurement

- ATEX/IECEX Zone 0 [ia I/IIC T4] Class 1 Div 1
- **Truly wireless:** sensors embedded in package
- **All in one** - Velocity (5-1kHz), Acceleration (5-10kHz) + Temperature
- **Trended values + waveforms/spectrums**
- Full System 1 connectivity
- Auto forming, self healing **ISA100** Wireless Network Protocol
- **Replaceable** lithium-thionyl chloride battery
- IP67 hermitically sealed electronics
- Temperature: -40C to + 85C
- Range: 150 meters (line of sight), 100 meters typical industrial environment
- Security: 128-bit AES encryption
- Modbus output to **DCS or Plant Historian** trended values
- GCI interface trended values & waveforms to **System 1**
- **Battery life:** up to 5 years (depending upon data frequency/type configuration)

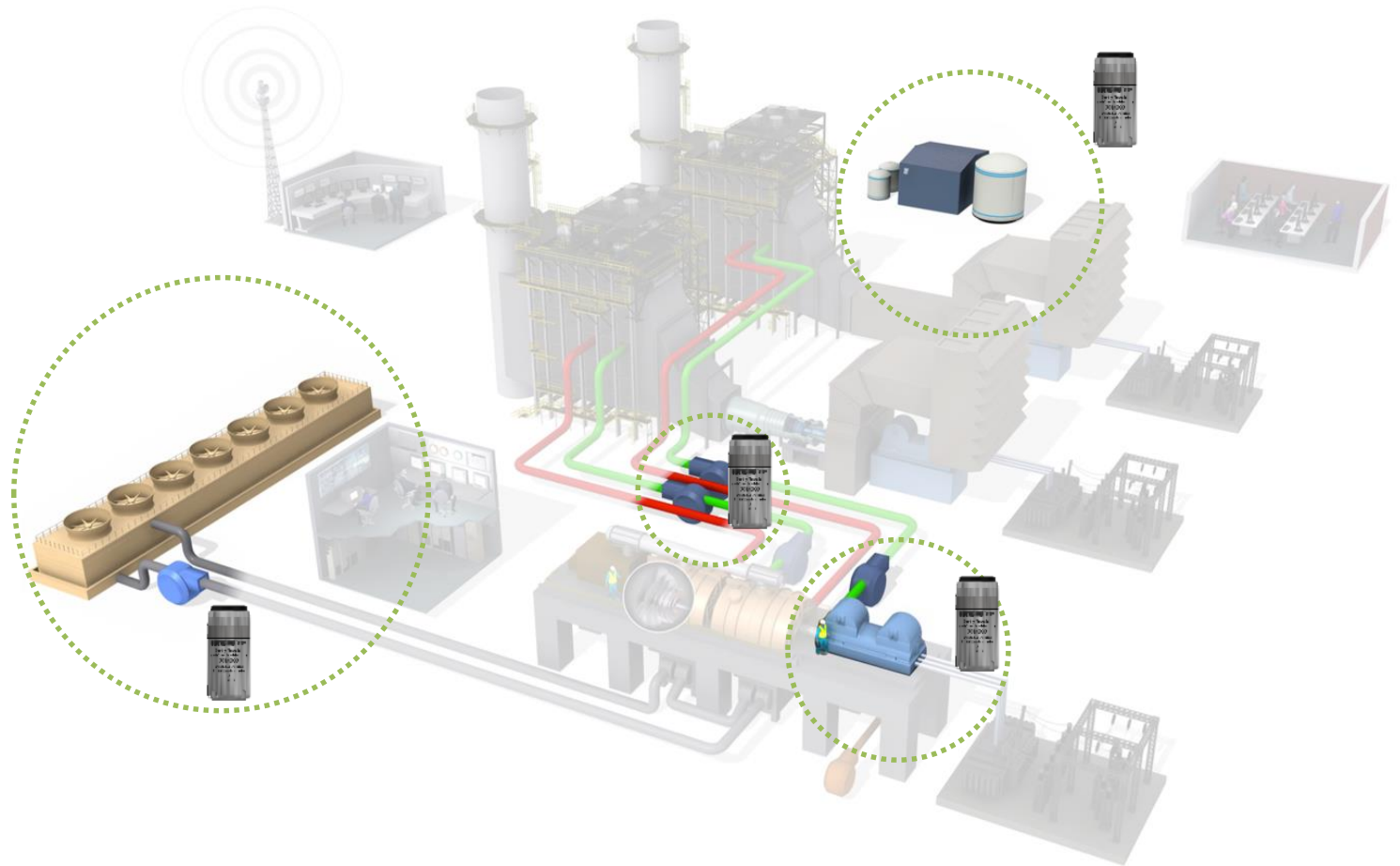
Ranger Pro Network Deployment Setups



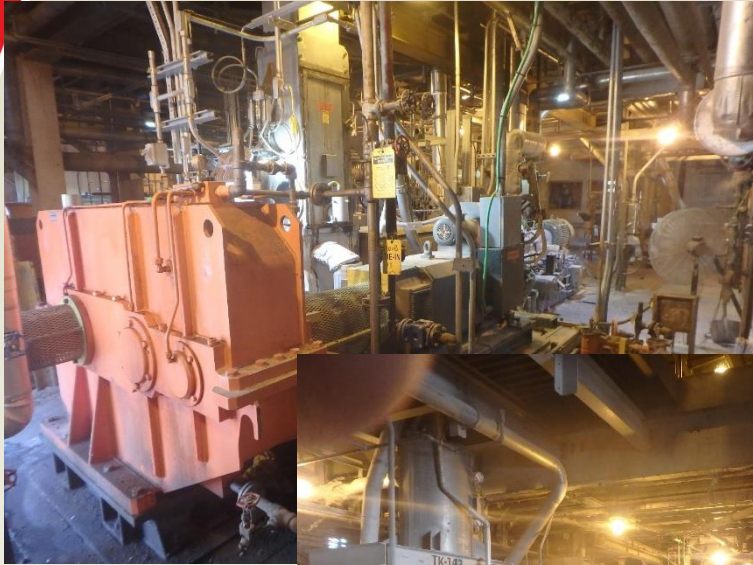
Typical applications

Move from reactive maintenance to predictive maintenance

Machine Type	
Agitators	✓
Air compressors	✓
Ball mills	✓
Blowers	✓
Centrifuges	✓
Cooling tower fans and pumps	✓
ID, FD fans	✓
Pumps	✓
Mixers	✓
Motors	✓
Screw compressors	✓
Small motors	✓
Small recip	✓



Typical Site



Questions?



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[Ranger Pro](#)

[Bently Nevada](#)



www.isa100wci.org



[ISA100 Wireless Interest Group](#) **LinkedIn**

690+ members and growing; please join and invite your peers to join as well !



**THANK
YOU**

For Your Attention!

