

Top 10 Considerations When Selecting a Wireless Solution

The benefits offered by wireless technologies go well beyond the cost savings created by eliminating wires. When used as a strategic investment, wireless can improve overall plant safety and reliability and increase operational efficiencies. Before implementing wireless solutions, manufacturers should consider many factors to determine which technology will best meet their needs today and in the future. A company must take a researched, strategic approach that considers everything from functionality and speed to scalability. Following is a check list of critical factors companies should consider before installing wireless solutions:

1. Single versus multi-purpose network: Single-purpose networks may appear to be the most cost-effective approach. However, there are very few plants that have only a single use for wireless technology. A multi-purpose network (i.e., one that supports multiple types of applications for multiple departments) will be a more efficient and effective solution for the long-term.

2. Network compatibility: Will field workers need access to the data or interface with servers? Will standards-based field instruments be used? What about Ethernet? Any system selected should support Wi-Fi, wired Ethernet, and have a migration path to the ISA100 standard.

3. Reliability and availability: How reliable is the network? Can your plant afford to lose, for example, 10% of the data transmissions? Is it important the data is available within the scheduled update time, or is data timeliness

not important? Different applications have different requirements, so to ensure future flexibility, look for a system that can provide 99%+ data reliability inside the update rate availability window.

4. Speed of information transfer: Certain applications may require fast transmissions, while others will tolerate slower transfers to conserve battery life. A high-speed backbone is needed for data-rich applications like video, mobile workers and Ethernet backhaul. A network that accommodates multiple speeds over the same network at the same time will match specific applications to speed requirements.

5. Alert or alarm frequency: Many sensor networks report information on a periodic basis, such as every five minutes. However, many applications need to quickly transmit an alert or alarm when a specific threshold is exceeded. Additionally, for slower operating rates, operators may require a reading before a scheduled update. As such, a system should allow you to choose regular and on-demand updates.

6. Power management: When selecting battery-powered wireless products, determine the required reporting rate and then ask for the battery lifetime at that rate. Most plants use a five-second update rate as a good baseline.


7. Control application requirements: While operators may not be ready for wireless control today, open-loop control for non-critical assets should be considered. It is easier to use a control-ready system for monitoring than it is to upgrade a monitoring-only system in the future.



8. Maintenance predictability: The expense of swapping batteries could negate the cost savings from eliminating wiring. Determine the length of time the devices should be self-powered. Most users expect a battery lifetime of three-five years. Consider whether a system will consume battery power at a deterministic rate or a more unpredictable rate.

9. Scalability: Find a network that can accommodate the number of devices needed today, and that will expand as the business grows. Select a network that offers scalability, as some device signals will degrade as the number of devices added to the network increases.

10. Application interfaces: To protect the wireless technology investment, wireless networks must support today's applications as well as future protocols. The network should easily interface with legacy applications and ensure support for the entire operation – not just a single department.

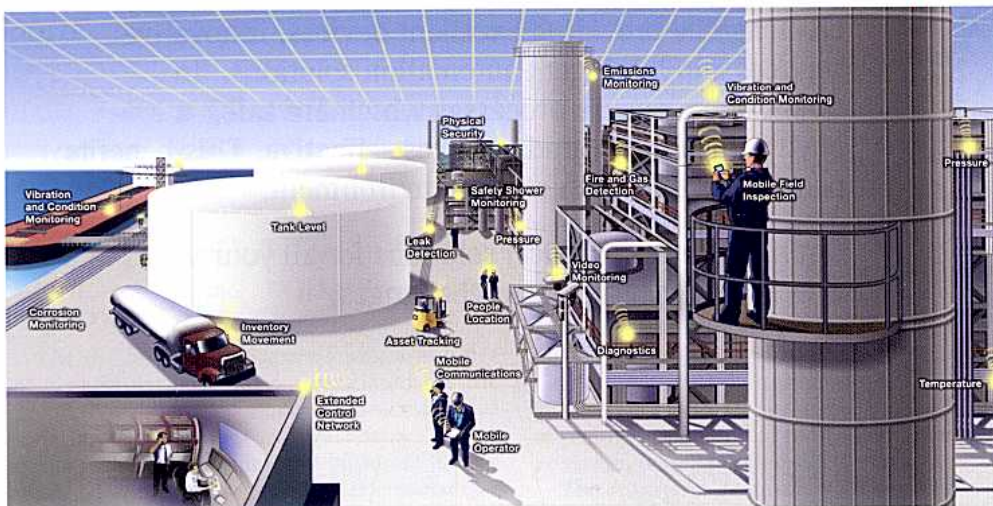
The decision to implement wireless technology can provide significant benefits beyond reduced costs. With a strategic, well-designed approach, companies can improve overall safety, efficiency and reliability, optimizing the entire plant. 

The Author: Jeff Becker is the director of global wireless business for Honeywell Process Solutions, the leader responsible for all aspects of the wireless business in the organization. His career spans a variety of engineering, sales, marketing, and general management roles ranging from start-ups to companies such as 3Com, Intel, and Ingram Micro. Jeff holds a Bachelor of Science degree in Electrical Engineering from the University of California, San Diego.

For more information please contact:
Honeywell.
Phone 1.800.461.0013,
www.honeywell.com/ips

The OneWireless Plant

Honeywell



Honeywell's innovative OneWireless[®] solutions turn valuable data into knowledge, helping plants:

- Keep people, plants and the environment safe
- Improve plant and asset reliability
- Optimize through efficient employees, equipment and processes