What are customers asking about industrial wireless networks?

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In the last year, informed wireless buyers have become more educated in the kinds of questions to ask. They have become more comfortable implementing wireless solutions when they get the right answers. We still occasionally get the question, “is wireless secure and can it really function in an industrial setting?”, but most questions now are about how it will work in their own environments, how to effectively replace wires and cables with wireless, and how encryption works?.A motivating factor behind the shift is the value, the ROI,that wireless can bring to factories, warehouses and industrial plants.

Automotive assembly lines are rapidly adopting wireless.

The highest adoption of wireless has taken place in manufacturing environments such as the automotive factory floor because they operate in large buildings and are prone to frequent reconfiguration. One of the major challenges in an automotive factory is the constantly moving and twisting components that shorten the lifetime of cabling, as well as long wire runs. Combined with the hazardous chemicals often found on an assembly line, cables do not survive long and they need to be troubleshot and repaired.

Another powerful motivation is the innate flexibility of wireless. As assembly lines are often reconfigured as new automobile product lines are introduced, not re-running data cables is yet another great ROI advantage. Using a wireless network

enables quick reconfiguration of the switches and controllers as well. Is the new location of the control hub not optimal for the new assembly line plan? If so, just move it. Attach it where it works best, plug it in to power, and once again you can monitor the wireless switch network. If it’s still not right, just unplug it, move it and power it back up.

The reduction of downtime associated with troubleshooting and repairing an industrial wired network often more than covers the total cost of installing a wireless network. Every minute of downtime in a busy automotive factory can cost tens of thousands of dollars, and they can lose a car for every two minutes the line is down.

Troubleshooting a wireless network is much easier and quicker than tracking down a shorted or defective cable connection. Imagine trying to locate and then repair the bad spot in a cable as it twists and winds around complex machinery coated with heavy layers of paint, grease and grime.Many plants simply give up on maintaining their data wires, choosing instead to dump the old cables and make the move to wireless. In these harsh environments, wireless switches in sealed, protective housings can successfully function far longer than cabling.

The Honeywell Limitless network consists of wireless limit switches which monitor position and a Limitless WDRR Receiver that can talk to up to 14 different switches at a time.

To ensure reliability of the wireless switch network, each switch provides a way to ensure that the signal is actually getting through to the monitoring receiver. In extremely RF noisy environments or those with lots of moving equipment, the switches can be programmed to re-transmit the signal until it gets through. The

wireless receiver monitors the quality of the signals to ensure that it is reliably receiving the signals from each switch node. In addition, in the case of battery powered switches, each switch provides a power monitoring function that provides an alarm when the batteries begin to get low.

Automotive factory managers and assembly line designers have found that the cost of going wireless is much less than the long term, accelerating expenses of maintaining, reconfiguring and repairing cables.

The improved ROI of wireless – for repair and maintenance and lower overall operating costs, as well as its flexibility of installation and reconfiguration, are the principal drivers we see for the increasing rapid acceptance of wireless into the industrial environment.

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