

EDITORIAL

Promise of Wireless Remote Machinery Data Acquisition . . . Revisited

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A few years ago, I wrote an editorial where I discussed the potential of wireless remote monitoring of rotating equipment. The premise of that editorial was that with the increasing costs of personnel and the decline in the number of people qualified to analyze the health of rotating equipment, it made sense to monitor vital equipment remotely with high caliber analysts whose ability to monitor a large number of machines could be leveraged enormously by the use of this technology.

It made further sense to use wireless sensors to transmit the data to reduce the cost of wiring. When you mention wireless remote monitoring of rotating equipment, there is usually a very positive response. It is after all the blending of high technology and a service industry. Both of these sectors, high technology and service, are what our modern economies are based upon, so the concept appears to be on sound footing. Security organizations have built a very successful business model doing remote monitoring of homes and businesses, so where does remote monitoring of rotating equipment stand today?

Here we are several years after the first editorial, and though there has been some progress in using the combined wireless-acquisition/remote-monitoring approach, it still has not caught on to any significant degree. It appears that it will be some time in the future before the use of wireless remote monitoring lives up to its potential. Based on working with wireless remote systems for the last five years, the major obstacles to its widespread acceptance appear to be cost, the availability of inexpensive wireless sensors, and IT hurdles.

There are organizations that are working


on the sensor issue, and that problem will most likely be overcome fairly soon. From a technical side, the real hurdles often lie in the reluctance of IT departments to provide access for outside organizations to their networks and the unwillingness of some organizations to allow data from their plants to go off site. IT people are often so obsessed with keeping people out that they do not want to let the machine doctors in to assess the health of their patients.

Based on a rather long list of experiences, it has also become clear that it is difficult to find champions in industries who are willing or have the authority to take on the IT departments to get this technology put in place. Another observation is that the few people interested in promoting this technology usually have neither the authority to either spend capital money nor any significant influence in dealing with the IT people. There appears to be a disconnect between the individuals responsible for maintaining and operating the equipment and those who control the purse strings.

My main point is that many managers in today's economic environment have been forced into a day-to-day existence of maintaining and operating their plants with fewer and fewer people. This situation has resulted in a complete lack of vision with regard to how plants will be operated and maintained in the future. They are working so hard to keep their heads above water that they do not have the time or willpower to fight for systems that will help them in the future. Based on what I have seen, there are very few upper-level managers that look five years into the future and try to envision where they want to be as it relates to maintaining their assets. Until that mind-set

changes, it will be difficult to move to wireless remote monitoring systems.

For this technology to move forward, that mindset of managers must undergo a major change. Even though they are covered up with today's problems, they have to ask themselves, "how am I going to maintain this facility with fewer and fewer employees and with the loss of my most experienced personnel to retirement?" They have to explain to their IT departments that their job is not just to keep hackers out, but also to let in those who can recognize problems before they become critical. They have to stare down those who fret about data going off site and say, "we let banks keep our money, and payroll services maintain our employee records. Does it really matter if encoded digitized data from a sensor on a machine get moved off site so an expert can help us from having a major equipment failure." They have to overcome unjustified fears and a culture where it is easier to say 'no' to everything than it is to take the effort required to integrate a new technology that will help them compete.

From the time men first started to build things and up until the computer age, there has been one continuous, predictable, irreversible trend toward automation that frees up people from repetitive tasks like data collection. Automated remote monitoring of vital equipment is just another step in this direction. This will inevitably happen. The only question is how long will it take for those with vision and foresight to stand up and push away the obstacles of fear and lack of vision and demand that we move forward. 

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