Internet-Based Data Acquisition with Web-Enabled Sensors

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Recent years have seen what can only be described as a wave of hyper-development in web technology. Concurrently, the ubiquitous Internet is quickly becoming the backbone of our communications infrastructure. Enter the web-enabled sensor. The marriage of common sensing technologies with the power of the Internet offers dramatic benefits for companies looking to remotely monitor levels or other parameters .

The key advantage of web-enabled sensors is that for the first time, users can have access to valuable information from remote sensors without spending the large sums normally associated with remote monitoring solutions. The internet here; it is now simply a matter of using that backbone.

Those familiar with the setup and configuration of common instruments like ultrasonic sensors will quickly appreciate the benefits of having the power of an embedded webpage; and the obvious and welcome absence of proprietary hardware and configuration software. All that is needed to configure a web-enabled sensor is a standard web browser.

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Goodbye software compatibility problems; hello increased productivity.

Another clear benefit of web-enabled devices and web-based data-acquisition solutions is in the installation and commissioning phase. Some vendors have made this process as easy as physically mounting a device and establishing communications to the internet. From that point on, all required configuration and scaling can be accomplished either remotely over the internet, or from any computer on the local area network. No more sitting on top of a tank with a laptop to program a sensor.

Vendor-supplied web applications now allow even small users the benefits of much more expensive and resource-intensive data-acquisition systems. For about the cost of a standard sensor, a user can now purchase a smart-sensor, install it on a network with access to the Internet, and with no additional initial investment, have 24/7 secure access to that sensors data from any computer in the world within minutes of the installation! The implementation of open database platforms in these web applications means that historical data can be easily linked with other systems with minimal effort.

The diagnostic and alarming capabilities offered by the use of smart web sensors can have a dramatic impact on the day-to-day operations of many businesses; specifically those whose business model involves vendor-managed-inventory.

In summary, the advantages offered by the increased use of smart sensors are significant and will only continue to grow as more types of devices and controllers become available on the market. These devices will open the door to true web-enabled monitoring and control.

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