

# Enhance Advanced Control Application Results with Wireless Solutions



A key step in implementing a unit-based multivariable control application like Honeywell's Profit Controller is determining whether all the required process variables are available in the DCS. If that information is not available, it's important to either wire them in, often at considerable expense, or to proceed without them. Sometimes, a variable could be inferred from historical information or from other variables. Without confidence in the accuracy of this inference, many plants will operate the controller in a more conservative way. This can lead to reduced performance and ultimately loss of profitability.

## Honeywell's OneWireless Network

The OneWireless Network is an industrial multi-purpose wireless network designed for process control. OneWireless allows you to extend your process control network to the field and is intended to be used for process monitoring and supervisory control. The network is flexible, secure, robust, quick and capable of managing harsh environments. The OneWireless Network is composed of OneWireless multinodes and managed with a single suite of software.

## Opportunities to Enhance Safety and Profitability

There are many examples where wireless technology can improve the effectiveness of advanced applications:

- **Column controls** often incorporate quality controls that involve inferential properties based upon pressure compensated tray temperatures. Adding a wireless pressure transmitter to indicate the pressure as close to the draw tray as possible can give a much improved inferential quality measurement compared with using the column top pressure measurement.
- The addition of wireless delta pressure measurements across furnace tubes can enable improved prediction of **furnace coking** in ethylene and VCM furnaces. Additional wireless pressure transmitters above and below the feed in distillation columns can allow for flooding predictions to be

included in an advanced control application maximizing throughput and yield.

- A wireless Ethernet connection can bring information into the control room from a separate dedicated control system like those associated with **gas turbines and compressors**. While some of the variables such as compressor speed and suction pressure may already be available, others, such as "approach to surge" calculations may not. This calculated variable can now be used as a constraint within an advanced control application that is, for example, minimizing operating pressure to improve separation in a distillation column.
- Certain air permit regulations require that **emissions from furnace stacks** are continually monitored to meet environmental air quality regulations. Companies may install dedicated analyzer enclosures that extract a sample from the furnace stack and analyze for a series of stack emissions on a continuous basis. The sample system will typically have its own PLC that extracts, analyzes, flushes and calibrates the system. While part of this information may already be wired into the control room, most of the details are not. A wireless Ethernet connection can make all the information available so that additional analyzer information such as cycle time or operating mode can enable this analyzer value to be incorporated as an asynchronous controlled variable into the advanced control application. It can also support a simple connection to a dedicated environmental reporting system such as the Honeywell Exceed system.



- Wireless connections can enable inputs from upstream units with separate or different DCS to be pulled into an **advanced control application** controlling a downstream process. For example, propylene feed quality from a fluidized cat cracker unit (FCCU) can be accessed using a wireless connection to a neighboring polypropylene plant. That feed quality variation can then be used to provide predictive disturbance information to a propylene-propane splitter advanced control application to ensure consistently pure propylene is fed to the polypropylene reactors.
- Bluetooth-enabled pyrometers can be used to send a wireless signal to provide bias updating to an estimated tube skin temperature calculation being used in a **furnace control application**.
- Handheld wireless tools like Intelatrac PKS and RFID tags can be used to ensure that when **lab samples** are taken in the field, the exact time that they are taken is recorded for more accurate comparison with DCS based quality predictions used within an advanced control application.

Honeywell's OneWireless solution is a secure, reliable and cost effective method of ensuring that all the right data can be incorporated into the design of advanced control and optimization applications. With the right information, these applications can increase throughput, improve yields, improve quality and reduce energy consumption in a variety of applications and industries.

### More Information

For more information on Honeywell's wireless solutions, visit [www.honeywell.com/ps/wireless](http://www.honeywell.com/ps/wireless) or contact your Honeywell account manager.

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