

## Rotary Dryer OneWireless Helps Plant Save \$30K of Installation Costs Compared to a Wired Alternative



### Industry Applications:

Chemicals and Mining, Metals & Minerals

### Results

- **Saved \$30K of installation cost (hardware and labor) compared to a wired alternative.**
- **Reduced maintenance cost by 10% on average, on an annum basis in terms of cleaning, lost production, lost fuel and startup expense for the dryer.**
- **Optimized efficiency of the dryer resulted in reduced energy consumption through the addition of new and higher accuracy measurement points.**
- **Wi-Fi and Ethernet coverage is available in the field. The site is planning to implement the OneWireless Video and OneWireless Mobile Workforce Solutions to further reduce the wireless infrastructure payback period.**



### Challenge

A Korean chemical plant wanted to improve its production capacity. To achieve this, the plant's operations team needed to optimize the rotary dryer and eliminate any loss of production due to unplanned maintenance of the equipment.

A rotary dryer is a large, rotating cylindrical tube used to reduce or minimize the liquid moisture content of the produced material. To optimize the dryer's efficiency and better monitor its health, the plant needed to install additional measuring devices to obtain a temperature profile. Traditional techniques for measuring the temperature (i.e., wired temperature transmitters) have limitations such as:

- High maintenance cost of the wired transmitters due to degradation of wiring caused by high rotating connections, temperature, and vibration.
- Inaccurate or out of specification readings caused by radiant heat interference resulting in inconsistent production quality.
- Difficulty optimizing the dryer/kiln thermal process due to the high cost of implementing additional wired-based measurements, as well as the resultant increase in maintenance issues.

### Solution

The plant identified wireless as a cost-effective and reliable technology to be used within its operation. A OneWireless™ system consisting of a multinode, Wireless Device Manager and XYR 6000 wireless temperature transmitters was installed.

- **XYR 6000** wireless temperature transmitters are battery-powered wireless transmitters that were installed along the rotary dryer's external surface. These wireless measurements eliminated the troublesome wiring and maintenance problems and provided high-accuracy measurement at exactly the location required to optimize the thermal process. The devices transmit measurement data to the control system via the multinode.

- **A multinode** is a rugged industrial access point, which provides wireless coverage for ISA100.11a field instruments and Wi-Fi devices. The multinode is connected to the Wireless Device Manager via an Ethernet interface.
- **Wireless Device Manager** is a Distributed Control System (DCS) module that manages all ISA100.11a field devices. It also hosts the various interfaces needed to route data from wireless field devices to the control system (e.g., Modbus, OPC, and HART). A Modbus interface was used for this application.

### Why Honeywell?

Customers selected OneWireless because of the system's performance (e.g., one-second update rate for wireless field instruments and longest transmission range), flexibility (e.g., sensor mesh or multi-application topologies) and lowest cost of ownership (e.g., off-the-shelf batteries and longest battery life in the market). OneWireless also offered a faster system commissioning time than a wired system with no impact on production. In addition, the site appreciated Honeywell's large OneWireless installed base and the capability to talk to other OneWireless users. Finally, the plant wanted a solution provider who could install, commission and service the system.

OneWireless™ is a trademark of Honeywell International Inc.

### More Information

For more information on Honeywell's wireless solutions, visit [www.thewirelessplant.com](http://www.thewirelessplant.com) or contact [wireless@honeywell.com](mailto:wireless@honeywell.com).

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