

Smart Wireless Technology Helps to Improve Electrolytic Refining at Codelco Copper Mine

BENEFITS

- Smart Wireless installation was quick and easy
- Wireless removed the hassle and expense of adding cable trays and conduit to an already saturated area
- Access to additional variables enables Codelco to improve overall process



CHALLENGE

Codelco, a Chilean state-owned company, is the world's top copper producer and controls the world's biggest copper reserves. Codelco was looking for a technology that would help reduce maintenance costs in the Ventanas plant in Chile. Due to the characteristics of the copper extraction with the electrolytic refining process, acid vapors are present and in contact with the wired devices and cables and instrument cable trays that are monitoring the process. This corrosive environment requires considerable maintenance and frequent cable replacement. Codelco wanted a more cost-effective way to control a network of variables from the process that would integrate to the control system network making the data available to their PI System.

SOLUTION

Codelco Ventanas decided to implement a Smart Wireless network, based on IEC 62591 (WirelessHART®) technology, starting with some wireless measurement points and a Smart Wireless Gateway. Applications include wireless temperature and pressure devices on heat exchangers, liquid level devices for tanks, pressure monitoring of circulation points and other operating variables. Values are standardized from 4- 20mA, and the information is wirelessly sent to the Smart Wireless Gateway which, in turn, enables seamless communication of all variables to the controller.

RESULTS

Codelco found the Smart Wireless installation quick, easy, and cost-effective. With wireless, it was not necessary to add more cable trays and conduit to the already saturated area. Other savings were achieved in the area of support and labor. The Smart Wireless solution provides additional variables that enable Codelco to improve the overall process. Historical data and trends are being generated with the information received from the transmitters for better decision-making. Because of Codelco's positive experience with Smart Wireless, they are considering additional applications.

"The Smart Wireless implementation was easy, fast and it was not necessary to add more cables to an already saturated area."

Herman Alday
Senior Supervisor, Codelco