

Specialty Chemical Production Plant Case Study

Introduction

A multinational specialty chemical corporation, with production plants in 24 countries and nearly two dozen sites in the United States, owns and operates a chemical production and R&D facility in a major North Carolina city. Each floor of their eight-story building is divided into separate sections for wet and dry chemical production. However, the entire building had inadequate cell reception and required a time- and cost-effective connectivity solution.

The Challenge

The wet production area presented a special challenge: the equipment in this area is sprayed down with water after each production cycle. All the flooring consists of metal grating, allowing the water to flow down through each floor to be collected and drained. This grating creates a Faraday cage that blocks electromagnetic fields, including cellular transmissions.

Cell signal outside the building was quite strong at -50 to -65 dBm, but inside signal, at -95 to -110 dBm, was inadequate to complete phone calls and send and receive text messages.

The Solution

Employees at this chemical production facility count on cell service inside the building to send and receive work-related calls and texts. The company turned to Powerful Signal for help solving their problem.

Solving this problem began with a walkthrough and on-site consultation by one of Powerful Signal's



professional commercial installers. The installer handed over his signal readings and site evaluation to a Powerful Signal design engineer, who created a custom WilsonPro passive DAS solution that provides the maximum inside cell signal coverage with the appropriate number of amplifiers, antennas, and other components.

To deal with the presence of water spray, Powerful Signal's team designed a custom waterproof seal for the inside dome antennas that would go in the building's wet production areas. Once the proposed design was completed and approved by the company, the installer returned to the site to deploy the WilsonPro system.

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Part of the solution hinged on installing the WilsonPro 70 Plus, an amplifier designed to boost reception on all carriers in large commercial spaces and luxury homes. After the WilsonPro experts tried plugging in both the competitor's system and the 70 Plus model, it was clear that the WilsonPro model achieved far superior results.

The Results

Powerful Signal's installed WilsonPro solution covers over 150,000 square feet across three-and-a-half floors of this chemical production building. Cell signal inside the facility is now a strong -65 to -80 dBm. This company and its employees are now able to use cell phones and other cellular devices inside the facility.

