



# A Hybrid Switchgear-Communication Solution Satisfies Shopping Center's No-Antenna Demands

**S&C Featured Solution:** Remote-Supervisory Vista® Underground Distribution Switchgear

**Location:** Mexico

## Customer Challenge

A new 271,000-square-meter multiuse-development shopping center in central Mexico is among the largest shopping centers in Latin America. It includes a town center with buildings housing residential units, corporate offices, hotels, and a fitness center. The site's landscaping includes large green areas consisting of gardens, fountains, and roads that provide an aesthetically pleasing appearance.

Because the project required a high degree of power reliability without adversely affecting the site's appealing exterior, the local utility asked the developer and its electrical contractor to install remotely operated underground distribution-type switches to communicate with local utility's SCADA system. This proved challenging because the installations were not in the project's original design and, because of rigid aesthetic requirements, radio antennas to allow the units to communicate to the local utility's SCADA system could not be installed on the interior buildings. Instead, engineers needed to develop a hybrid communication solution.

## S&C Solution

The shopping center contractor said it would accommodate antennas on switchgear deployed in the commercial complex's parking lot. This provided S&C with the flexibility to develop a custom hybrid solution that would provide reliable communications between the eight vault-style Vista switchgear units located in the site's indoor electrical rooms (see Photo 1) and one of the two submersible-style Vista switchgear units installed in the parking lot (see Photo 2).

For economical purposes, four Vista switchgear units inside the buildings use fiber-optic cable to communicate with the parking lot Vista units more than 500 meters away. The four other switchgear units use unshielded twisted pair (UTP) cable to support Ethernet communications with the two closer Vista parking lot units.



**Photo 1.** Vista unit located inside an electrical room.



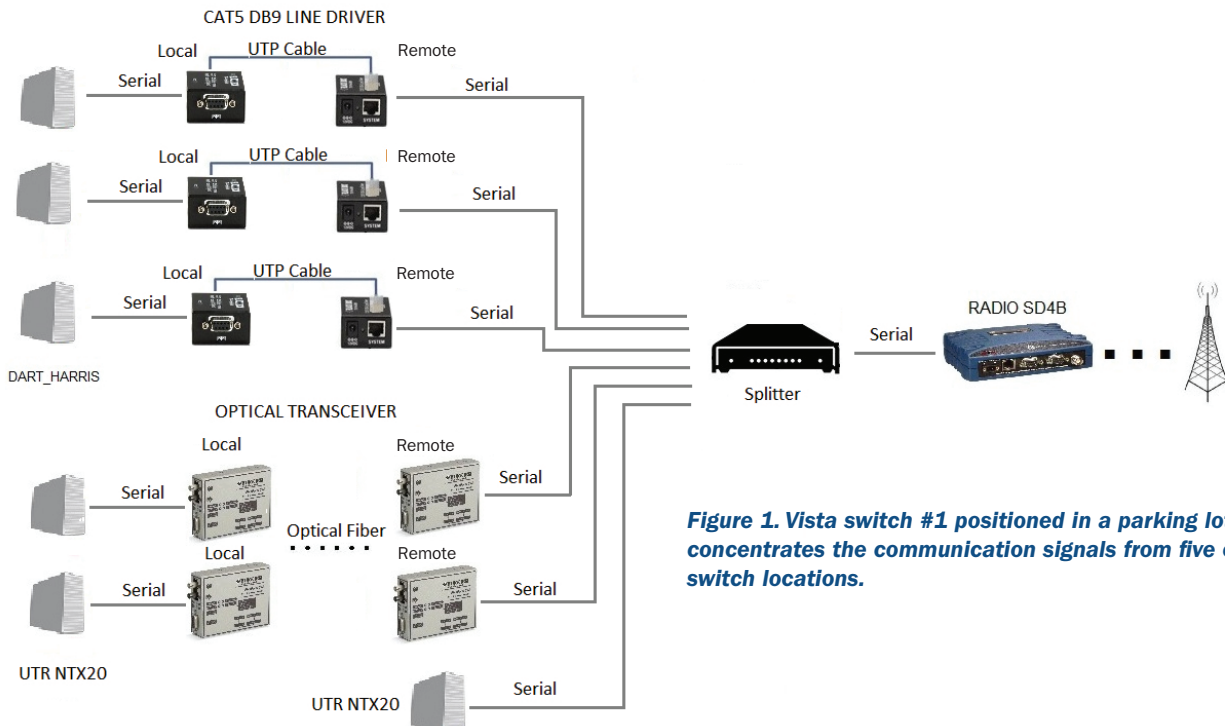
**Photo 2.** Low-voltage enclosure shown, with Vista units located in an underground vault.

*S&C used custom engineering to accommodate a Mexican multiuse development's rigid aesthetics requirements.*

## A Hybrid Switchgear-Communication Solution Satisfies Shopping Center's No-Antenna Demands

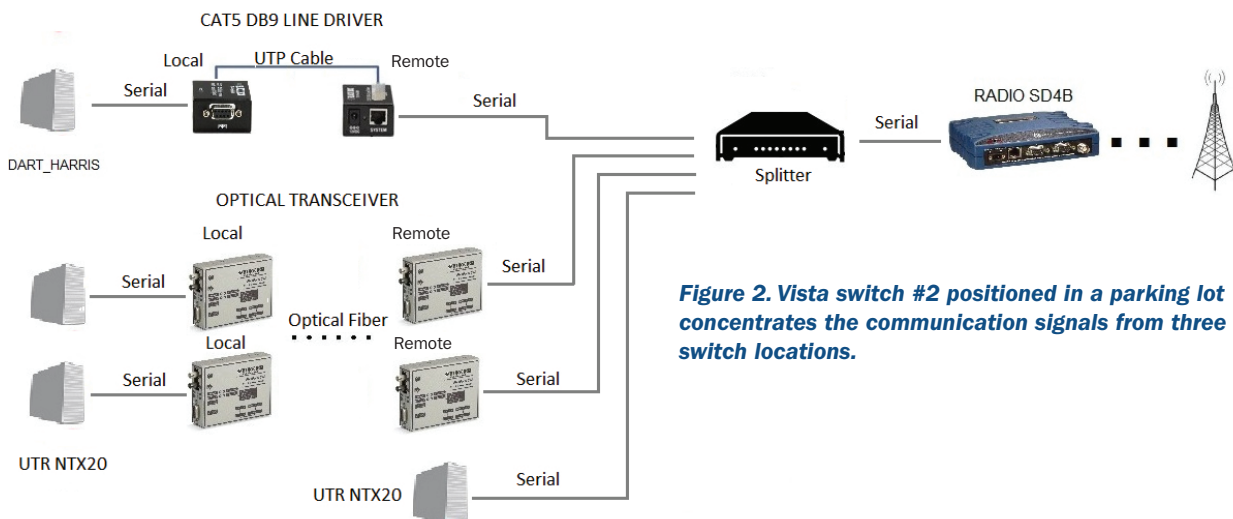
One Vista parking lot switchgear unit concentrates signals from five of the electrical room Vista units (see Figure 1), and the other concentrates signals from the three other Vista units installed in separate electrical rooms throughout the complex (see Figure 2). A splitter within each low-voltage enclosure (LVE) in the two parking lot Vista units separates the signals so they can be transmitted individually via radio signal to the utility's SCADA system (see Photo 3 on page 3).

### LVE FROM UNDERGROUND VISTA #1

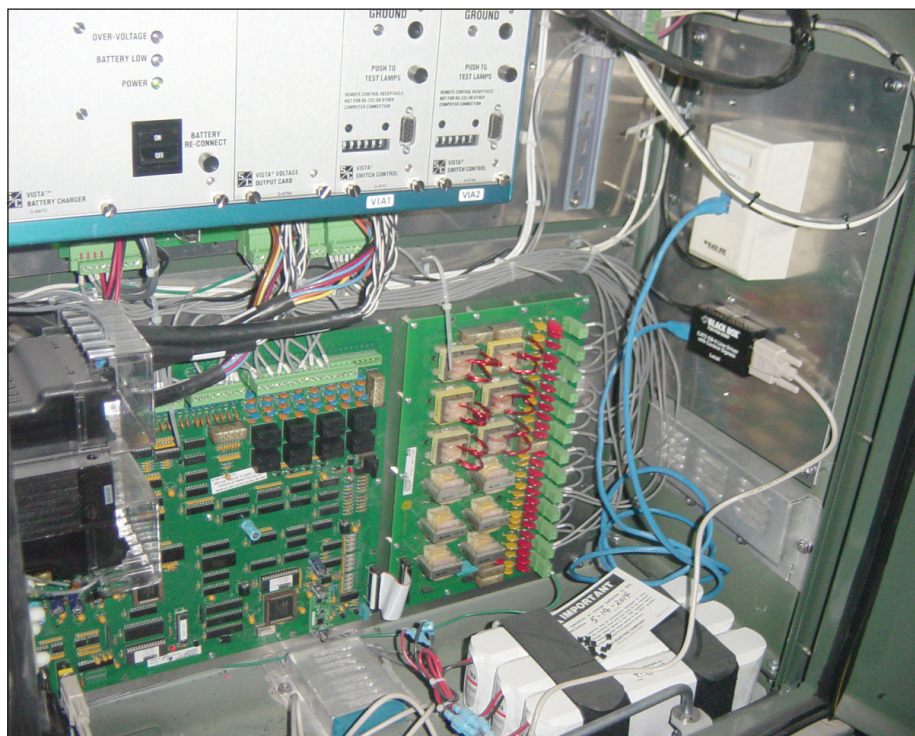


**Figure 1. Vista switch #1 positioned in a parking lot concentrates the communication signals from five other switch locations.**

### LVE FROM UNDERGROUND VISTA #2



**Figure 2. Vista switch #2 positioned in a parking lot concentrates the communication signals from three other switch locations.**



**Photo 3. Vista communication and control components inside a low-voltage enclosure.**

## Results

All 10 Vista Underground Distribution Switchgear units at the shopping center are communicating perfectly with the utility's SCADA system. The customer is pleased with S&C's custom-engineering decision to use Ethernet and fiber-optic cables to connect the Vista switches, along with S&C's continued product and engineering support. This allowed for the development of a much more reliable and aesthetically pleasing communication system where sole use of radios was not possible. As a result, the customer plans to use S&C's engineering support on other projects that require such communication innovation.

---

*“From the start, S&C won over our customer’s confidence through development of a custom communication system and its continued after-sales service and technical support. This surely will enable S&C to win future projects with them.”*

*–Rigoberto Castañon  
General Manager, S&C Electric-Mexico*

---