Project reference

South Carolina Highways

Modernizing our motorways

Roads have been around at least as long as people have and our priorities for traveling have remained about the same throughout time: Whether we're off to work or running an errand, we want to get wherever we're going as quickly as possible and arrive there safely. Yet today's roads comprise more than just the physical thoroughfares we traverse to our daily destinations. Technology has given highway systems around the world an edge: It's now possible to assess the situation before you hit the road and drivers can easily select the safest and swiftest route for each particular trip.

The power to plan ahead

In South Carolina, USA, the Department of Transportation (SCDOT) has combined man's rudimentary desire for an efficient journey with the power to plan ahead, making the South Carolina state highway system one of the best in the nation. Behind their network of motorways is a complex of traffic cameras and variable message signs (VMS) connected to a plethora of sensors and contacts.

This traffic technology culminates in an array of convenient media, from signals triggering traffic light changes to internet sites and radio programs that provide drivers anywhere in the state with the most up to date information about road conditions and congestion.
"
The South Carolina Department of Transportation's Intelligent Transportation System (ITS) has effectively enhanced the public's knowledge of roadway conditions through the use of CCTV camera systems and dynamic message signs," tells Charlie Shirley, the SCDOT ITS Field Operations Manager.

Ensuring an effective system

Reliable information depends on a reliable network, however, and comprehensive quality can't be had in a hurry. Over the years, the SCDOT has worked closely with the leading regional systems distributor, Temple, Inc., based in Decatur, Alabama, USA, to develop and maintain a steadfast and valuable traffic system, but roadside conditions are harsh and not all network equipment is up to the test.

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While traffic cameras and signals as well as sensors, such as loop devices, are made to bear the wear and tear of varied weather and highway situations, the diverse range of contraptions designed to convey the collected information often buckle under the rugged circumstances, and equipment failures recurrently plagued the SCDOT in its traffic system's early years.

Finding a solution

Fully aware of their customer's difficulties, Temple started testing an assortment of field-hardened fiber optic transmission equipment that could endure the severe conditions in which it was to be installed. In 2003, Temple discovered a supplier of advanced Siqura IP and Optelecom fiber video surveillance solutions. Intrigued by the wide temperature range in which Optelecom fiber optic transmitter and receiver solutions can operate (-40° F to +165° F), Temple commissioned TKH Security Solutions USA to provide the SCDOT with dependable devices that would ensure a consistent and unfailing flow of traffic information, and it turned out that Temple had happened upon a saving solution.

Mr. Shirley adds, "Today, through the use of high-tech fiber optic equipment by TKH Security Solutions USA, the SCDOT offers the motoring public a safer commute on the South Carolina highways. This fiber optic video and data transmission equipment sends real-time traffic information to a central traffic control center allowing the SCDOT to monitor the roadways to ensure timely responses to incidents, rendering a safer commute for the motoring public."

The SCDOT traffic network primarily uses Optelecom high-density CWDM transmitters to send video and data over a single fiber to the traffic control center in Columbia, where operators monitor the traffic situation and manage the electronic signs and traffic advisory reports can be generated.

Reliable roads through reliable relationships

The success of the Optelecom equipment has led to a long term relationship between the SCDOT, Temple, and TKH Security Solutions USA in which transmission failures in the SCDOT's CCTV system have become few and far between.

"Temple's representation and dedication to excellence in providing services and products to its customers in the Carolina states and to the Transportation Industry is the reason we proudly consider them one of our Premier Distributors," says TKH Security Solutions USA Key Account Manager, Dean Porter. "It has been our pleasure to work with them and the SCDOT in providing advanced fiber technology solutions, training, and services that meet and exceed the demanding requirements of this industry."

Contributing to the evolution of traffic technology

Due to their reliability and quality, the SCDOT and Temple have continued for the past seven years to replace older and failed equipment with Optelecom fiber solutions. Consequently, they have been able to take the evolution of roads to the next level and guarantee drivers the service and information they've come to rely on for a smooth trip.