

Cochise County

Arizona, USA

Case Study



THE CUSTOMER

Cochise is the fourth largest county in Arizona, spanning 6,200 square miles and including a land border with Mexico. The Border Alliance Group (BAG) is among the US Governmental agencies that need a reliable radio communications network to prevent international drug trafficking between the USA and Mexico.

SITUATION

When upgrading its existing analog simulcast system to a digital network, Cochise had two primary goals: to provide wide-area saturated coverage and to prevent conversations being intercepted.

The County features a number of hills and basins meaning coverage can be limited and received signal quality poor. Coverage and clarity is vital for the emergency services as many calls can be highly critical. The multi-agency task force BAG is responsible for seeking out and monitoring narcotics smuggling corridors that are often in remote, less inhabited areas.

The group had become vulnerable to criminals using scanners to intercept their radio conversations or have previously used radios with analog encryption, meaning poorer coverage over longer distances.

These organizations use various portables and mobiles on the analog network. Cochise wanted to ensure all subscriber units would work on any future solution, avoiding the financial burden of upgrading the entire fleet immediately.

“Cochise County Border Alliance Group is extremely impressed with the Tait P25 simulcast network.

The install went very smooth and the system began operating with impressive coverage along the border.”

Pablo Duarte - Communications Engineer
Cochise County



RESPONSE

When Cochise moved to a narrowband system in 2002, Durham Communications recommended migrating from a competitor's single-site system to a TaitNet five-site, five-channel QS2 Simulcast system.

For the digital upgrade Cochise turned again to Tait partner Durham Communications, who suggested a three-site Tait APCO P25 VHF Simulcast digital solution. Each of the three sites consisted of a TB9100, Cisco network switch and router, while the Sheriff's Dispatch Center contained a TB9100 gateway. Tait digital simulcast delivers spectral efficiency by reusing the limited frequency available in Cochise. This enables the County to avoid spending money on purchasing multiple frequencies.

By utilizing the same frequency on different sites, coverage is overlapped resulting in improved saturation throughout the County. The radio users who gained the initial benefits of the simulcast system were those upgrading from analog portables and mobiles to Tait P25 subscriber units, which feature superior voice clarity. Importantly, these radios were equipped with DES encryption to prevent messages from being intercepted from products outside the network.

OUTCOME

Within hours of the solution being installed, the Border Alliance Group was using Tait radios on the network to execute a search warrant. The encrypted digital radios mean the BAG can use the radios for operations confident they will not be intercepted.

The BAG can switch between simplex and repeater channels, but can also use the analog channel for ease of inter-agency collaboration. Since the system installation, several other organizations have chosen Tait subscriber units on the system.

Overall, the Tait P25 simulcast network has improved coverage by 40 percent in the southern area of Cochise County.

MORE INFORMATION

For news, product specifications, comprehensive technical information and contact details of your nearest Tait service facility, please visit www.taitradio.com

CUSTOMER PROFILE

Cochise County in Arizona shares an international land border with Mexico.

BUSINESS BENEFITS

- ▶ Improved radio coverage for wider communications
- ▶ Digital voice clarity for better voice recognition
- ▶ Encryption for secure communications
- ▶ P25 terminal interoperability to work with other manufacturers radios.

PRODUCTS USED

- ▶ TaitNet P25 simulcast 3-site network
- ▶ Tait TM9100 P25 digital mobiles
- ▶ Tait TP9100 P25 digital portables

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