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TxWARN maximizes interoperability while migrating to Project 25

Using SmartX, agencies can migrate at their own pace

"It shouldn't matter whether a first responder has an analog or digital radio. They all need to talk to each other. SmartX enables us to migrate our TxWARN infrastructure to P25 while allowing users to communicate seamlessly."
– Steve Jennings, Harris County CIO

Situation: Migrating a regional network to Project 25

The Texas Wide Area Radio Network (TxWARN) serves over 263 public safety agencies, including military, federal, state and local authorities, dispersed across 12,500 square miles in the Houston/Galveston area. The network was built on a strong foundation: a Motorola SmartZone™ analog voice radio system that now supports 43 sites and 44,320 users. In keeping with statewide plans for interoperable Project 25 (P25) communications, Harris County has decided it is time to migrate to a Motorola ASTRO® 25 digital voice and data system.

"We needed a way to make the migration easier for the departments we serve," says John Chaney, Sr. System Technologist, Harris County Regional Radio Center. "Say there's a volunteer fire department that bought new analog portables a few years ago. They don't have funding to replace their subscriber units. How do we bridge that gap for them to convert to P25?"
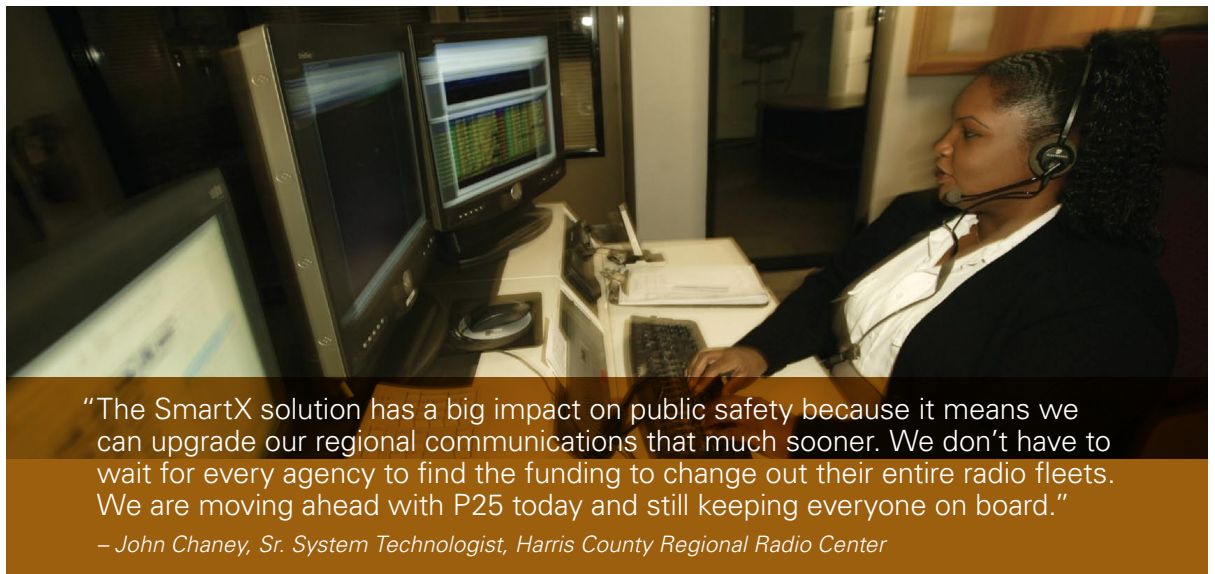
Solution: Motorola SmartX technology

A Motorola ASTRO 25 solution using SmartX site converters allows users with analog radios to interoperate with P25 users. There is no intervention required from the dispatcher or the users to communicate. Any type of user can be set up in a talkgroup. When the user presses the PTT, communications between analog, digital and P25 users and dispatcher is handled automatically. Essentially, ASTRO 25 with SmartX creates a powerful hybrid network that transitions Harris County onto an interoperable platform while maximizing the useful life of prior investments.

Result: A gradual migration for all 200 agencies

With SmartX, Harris County can gradually transition sites to ASTRO 25 while maintaining interoperability among users. Old sites, new sites; old radios, new radios will all work together. "We didn't want to give agencies a deadline to replace all of their radios. That puts a big financial burden on some of these departments," says Steve Jennings. "Now if I have an analog radio that's OK, because with SmartX installed at the sites I have the ability to communicate over the ASTRO 25 network with other responders."

Texas Wide Area Radio Network (TxWARN)

- Covers 12 of the 13 counties in the Houston Galveston area

- 44,320 users from more than 263 departments

- 800 MHz Motorola SmartZone 4.1 analog system migrating to a Motorola ASTRO®25 voice and data network

- 43 tower sites being equipped with Motorola SmartX site converters for a gradual migration to P25

> "The SmartX solution has a big impact on public safety because it means we can upgrade our regional communications that much sooner. We don't have to wait for every agency to find the funding to change out their entire radio fleets. We are moving ahead with P25 today and still keeping everyone on board."
>
> *– John Chaney, Sr. System Technologist, Harris County Regional Radio Center*

Mitigating cost and disruption

"Given the number of sites and the number of users, shutting down one system and turning on another just wasn't viable," says David Dodson, Radio Division Chief of the Harris County Information Technology Center. "It was very important to provide all customers in the TxWARN system a better way to transition to P25."

With SmartX, agencies on the regional network can begin investing incrementally in a P25 compliant future. Every new dollar can be spent on P25 sites, consoles, and subscriber units. When agencies are ready—as part of their normal equipment replacement cycles—they can choose to upgrade existing equipment to P25 or purchase new P25 devices.

Meanwhile, SmartZone radios and consoles continue to work as they always have. All mission critical trunking features—such as emergency call, console priority, busy/callback and user PTT-ID aliases—are maintained during the migration period to minimize impact on user and dispatch operations.

Architecture

Motorola SmartX solution works in concert with an ASTRO 25 system. Harris County already has an ASTRO 25 system in place, so the installation consisted of upgrading the ASTRO 25 core to version 7.7 and deploying SmartX site converters at the remote SmartZone sites.

Over a planned two-year phased deployment, TxWARN's 43 sites will be upgraded to ASTRO 25 sites. During this transition users will have seamless interoperability.

ASTRO 25 with SmartX allows analog radios to access the network and participate in talkgroups with other analog and P25 devices. From the user's perspective, it won't matter if the people they're talking to are using analog or digital radios.

Fast deployment

An important feature of SmartX is the speed of deployment. Since there is no need to replace entire fleets of subscriber devices, converting a site from SmartZone to ASTRO 25 with SmartX is a relatively quick process.

"We converted two sites in Walker County as a pilot project," says David Dodson. "Motorola installed the ASTRO 25 with SmartX system in a few days; racked, stacked, and live on the air. We had two demo sites running without a major hitch."

Motorola used its staging facilities in Schaumburg, Illinois, to construct, test, and optimize the entire installation before shipping it to the customer site.

Working with a trusted vendor

With unsurpassed expertise and experience in the public sector, Motorola understands that radios are a lifeline for first responders and the citizens they protect. ASTRO 25 with SmartX is part of Motorola's MOTOA4 portfolio of mission critical systems, designed to help public safety agencies confidently take the next step forward in their voice and data communications. For more information about Motorola's role in simplifying the migration to P25, please visit our website at Motorola.com/ASTRO25 or contact your Motorola representative.

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