A suburb of Medellín, Sabaneta is situated in the Aburra Valley of the Antioquia Department of Colombia.

Zetron's MAX Systems Improve Public Safety in Colombia

Sabaneta, Colombia's comprehensive IP-based public-safety communications solution has improved its services and contributed to a reduction in crime. The installation, which involved Zetron, MobileTec International and Colombian telecom company UNE, offers a model that makes up-to-date public-safety solutions widely available, even to small municipalities with limited budgets.

Medellín, Colombia, recently beat out more than 200 other major cities to be named "Innovative City of the Year" by Citi, *WSJ. Magazine*, and the Urban Land Institute (ULI). This impressive achievement recognizes the dramatic strides in politics, education and social development Medellín has made since the collapse of the Medellín Cartel in the early 1990s. Indeed, several decades later, it's clear that the city is moving in an entirely different direction.

This trend is not limited to Medellín proper. Sabaneta, a suburb eight miles from the heart of Medellín, is also full of positive energy and momentum. A direct expression of this is the new public-safety communications equipment now being used by Sabaneta's law-enforcement, public-safety and transit services. As a result of a partnership between Zetron, Zetron reseller MobileTec International, and Colombian telecommunications company UNE, Sabaneta has made the leap from public-safety communications equipment consisting primarily of a computer, phone, handheld radio and notebook, to a state-of-the-art IP-based dispatch, telephony and mapping solution. The vast improvements this has brought to Sabaneta's public-safety communications, and the approach that was used to make it possible, make the solution a model for other communities throughout Colombia.

A project is born

The project for Sabaneta began several years ago when Santiago Yepes, Chief Financial Officer of Tampa-based software provider, MobileTec International, approached UNE to discuss the status of Colombia's public-safety infrastructure. UNE, which had recently completed installing South America's first 4G commercial network in Colombia, had also been given the task of finding ways to improve communications for Colombia's police and fire departments. MobileTec and UNE discussed the fact that most local officials had never seen a comprehensive communications system and were unfamiliar with what one could do or why it might be advantageous. MobileTec proposed that a public-safety communications pilot project be conducted in Sabaneta.

"We offered to donate software, equipment and several laptops to the project as a proof of concept," explains MobileTec Chief Technical Officer, Mark Prest. "The purpose would be to demonstrate not only how the right equipment could improve public-safety services, but also how it could be provided at a price Sabaneta could afford."

Enter Zetron

MobileTec specializes in CAD, mapping and records-management software solutions for public safety and law enforcement. They needed a partner for the project who would be able to provide the additional dispatch and call-taking equipment necessary to make the pilot a complete turnkey solution.

They contacted numerous companies looking for a suitable match, and Zetron came back with the most positive response. "We knew of Zetron and the breadth of their product range," says Prest. "They'd also just released MAX Dispatch and were about to release MAX Call-Taking. Both are IP-based, and that's what we wanted. Other companies had IP dispatch or IP call-taking; Zetron had both."

Zetron signed onto the project.

The pilot for Sabaneta

At approximately seven square miles, Sabaneta is Medellín's smallest municipality. Despite its small size, Sabaneta was a choice location for the pilot because UNE is headquartered nearby in downtown Medellín. Their close proximity to the pilot site facilitated UNE's involvement and allowed them to monitor the project's progress.

Communications equipment for the pilot included:

- Three workstations equipped with Zetron's MAX Call-Taking and MAX Dispatch systems, and MobileTec's CAD solution with integrated mapping and a central display map. Each position allows the operator to answer, track and dispatch multiple calls from a single headset, replay calls as needed, and view responder locations and progress.

- A Web CAD that allows users at remote locations to view vital information such as current CAD status and vehicle locations.

> " **Zetron's experience, expertise** and patience were **invaluable**, with Zetron's technicians **stepping up at every opportunity.** "
>
> *Mark Prest*
> *Chief Technical Officer, MobileTec International*

Zetron's DCS-5020 Energizes Seoul, South Korea

With Zetron's integrated DCS-5020, Samchully City Gas's dispatchers handle multiple tasks from the console.

Samchully City Gas in Seoul, South Korea, recently installed Zetron's DCS-5020 Digital Console System with the help of communications equipment provider, Hanswell, also of Seoul. The solution is providing Samchully with the updated technology and functionality they need to manage their extensive operations.

To call Seoul, South Korea, a "megacity" is an understatement. It's the world's second largest metropolitan area, and has a population of 25.6 million people. More than half of South Korea's residents live in Seoul.

Samchully City Gas

Samchully City Gas is the natural-gas distribution company that serves the greater city of Seoul. Samchully not only supplies liquefied natural gas to residential and commercial customers throughout the city, but it also provides the gas that fuels the city's steam-supply and power-generation systems, fuel cells, cold- and warm-water supply systems, and even city buses.

Centralized communications

With five thousand employees and an annual revenue of approximately USD 2.33 billion, the scope and complexity of Samchully's operations reflect the scale of the city it serves. That's why Samchully relies on a centralized communication system to coordinate, control and manage its operations.

The need to update

Prior to 2012, Samchully was using remote desktop equipment for their operational communications. They had been using the equipment for many years, however, and it was beginning to fall behind in its ability to meet the company's evolving needs. In addition, communications technology has advanced considerably in recent years. Company officials began to realize that their operations could benefit greatly from the improved functionality and additional features an updated, more comprehensive communications solution would offer. This included capabilities that would allow them to combine multiple devices and resources into a single system and provide a graphical user interface (GUI) to control them all. The situation became more pressing when the need arose for them to be able to utilize multiple iDEN devices on their system; their existing equipment could support only one such device.

Hanswell, Co., LTD.

Samchully began searching for a vendor to help them obtain, design and implement a new communications system based on current technology. After considering a number of proposals, they awarded the project to telecommunications provider, Hanswell.

Based in Seoul, Hanswell provides two-way radio equipment and Radio-over-IP (RoIP), dispatch and intercom systems to public- and private-sector clients throughout South Korea and Asia.

Hanswell V.P., Sebastian Beck, explains some of the most critical factors that contributed to Hanswell being chosen for the project. "Not only have we had a long-standing, positive and successful business relationship with Samchully over the years," says Beck, "but our proposal was based on Zetron's DCS-5020 Digital Console System. The DCS-5020 would be able to provide the centralized, updated, and improved functionality Samchully was looking for and would more than fulfill their requirements of the project."

Localization and local support

Zetron was a natural choice for the project for other reasons as well. For the past seven years, Zetron's Australasia office in Brisbane and its North Asian-based territory manager have worked together to support Hanswell's business-development efforts throughout South Korea. Zetron has also responded to local market requirements by engineering its key dispatch products so they can easily be "localized" into the language of local users—in this case, Korean. This combination of easy localization and local support has been a key ingredient of Zetron's success throughout the non-English speaking countries of Asia. And it contributed significantly to the decision to use Zetron equipment for the Samchully project.

Easy to learn and use

The solution for Samchully consisted of three positions of Zetron's DCS-5020, ten iDEN ports, three PBX lines, and twelve hotlines. The equipment was installed in Samchully's command center in a process that Beck says was completed smoothly and easily.

Once the new solution had been installed and thoroughly tested, Hanswell trained Samchully's 12 operators on the best and most effective ways to use it for their purposes. Their training and transition to the new system went more quickly than anyone had expected, thanks in part to the system's intuitive operation.

"Because the DCS-5020 is so easy to learn and use," says Beck, "the operators caught onto it readily. In fact, many of them found that, once they got used to the system, they were able to appreciate more and more the extent to which it simplified their tasks and helped them function more efficiently. That's in large part due to the fact that the DCS-5020 allows them to control everything from the console. They're able to attend to their command-and-control tasks and operations without having to focus on the equipment itself."

Intuitive operation, support for Korean

Beck says that the customer is extremely pleased with their new equipment. "They particularly like the system's high-quality audio and flexible, easy-to-use graphical user interface," he says. "They also like its intuitive operation, Web and closed-circuit TV integration, and its ability to integrate and connect radios and other communication lines and resources, such as PSTN phone lines, to their radios. Its support for Korean is also a real plus."

Samchully also has praise for Hanswell's handling of the installation. "We are happy with both the process and the outcomes of the project," says a representative from Samchully. "Hanswell was very knowledgeable and professional in their handling of the entire project, from start to finish. And the Zetron solution is exactly what we need to meet our operational goals and requirements. "

Success breeds success

Although the installation at Samchully's command center has been completed, this is not the end of the story for Hanswell.

"Thanks to the success of this project, and because the features of the DCS-5020 meet the requirements of the Korean National Emergency Management Agency [NEMA]," says Beck, "we are currently in the process of reviewing second and third projects that will also involve the DCS-5020."■

DCS-5020
Digital Console System

The DCS-5020 is designed to meet the demands of the smaller control room. It is particularly suited for use in public safety, transportation, utilities, and private industry.

Features:
- **Integrates telephone call handling and radio dispatch.**
- **Based on a resilient, distributed architecture.**
- **Supports 16 console positions and 28 line ports.**
- **Supports and integrates analogue radio, MPT 1327 and TETRA.**

> " …MAX Dispatch…gives AMR the foundation for **an IP-based platform** that will eventually **control everything**…"
>
> *Brian Lancaster,* Sales Manager, Hurricane Electronics

Above: An ambulance in AMR's extensive fleet. Top right: AMR dispatcher Caren Depreo.

MAX Dispatch Provides Path to the Future

The AMR ambulance service's new MAX Dispatch system offers updated functionality, an easy interface to the area's public-safety radio network, and remote operations over IP in case AMR ever needs to evacuate to a backup site.

Much of the publicity about the destruction wrought by Hurricane Katrina has focused on the damage it inflicted on New Orleans. But on August 29, 2005, when Katrina made landfall on Mississippi's Gulf Coast, the destruction that resulted there was every bit as bad as it was in New Orleans, and in some ways, even worse.

Hurricane-force winds lashed the area for over 17 hours, and the storm's 28-foot surge is the highest ever recorded in the United States. The Mississippi counties of Harrison, Hancock and Jackson were especially hard hit, with 80–90 percent of their infrastructure and buildings severely damaged or destroyed.

Eight years later, the powerful lessons Katrina delivered are still reverberating throughout public-safety and emergency-response communities. Due to the interoperability failures that occurred during Katrina, many agencies now utilize county-wide or regional public-safety networks and require their two-way radio equipment to be interoperable with radio equipment from other manufacturers.

More agencies also understand the importance of having a backup communication center in case a storm or other disaster forces them to evacuate their main center. The advent of IP-based technologies has made it easier and less costly for control centers to not only equip a backup location, but to resume operations at the site over IP with little, if any, interruption in service.

So in 2012 when Zetron reseller Hurricane Electronics was approached by American Medical Response (AMR) of Gulfport, Mississippi, to help obtain and implement a new dispatch system to support their ambulance service, IP capability was at the top of their list of "must-haves" for the project.

"We wanted to make sure AMR will have an IP-based platform to use if a storm ever requires them to evacuate their main office and dispatch from another location," says Hurricane Electronics sales manager, Brian Lancaster. Given the region's history of destructive hurricanes, it seems more than likely that this scenario will play out sooner or later.

American Medical Response

American Medical Response is the largest private ambulance service provider in the United States. They operate in 40 states and the District of Columbia and provide services for 2,100 communities. In 2012 alone, they completed 3 million patient transports.

AMR's office in Gulfport, Mississippi, provides emergency and non-emergency ambulance services for Harrison and Hancock counties in Mississippi, as well the cities of Natchez, Mississippi, and Mobile, Alabama. Anyone in these service areas who needs an ambulance either calls AMR directly or calls 9-1-1 and is forwarded to AMR.

Time to remodel and update

In early 2012, the decision was made to remodel the control center at AMR's Gulfport, Mississippi, location and replace their existing dispatch system with a new one.

"They'd been using their Zetron button-based dispatch console for about 10 years and were ready to replace it," says Lancaster. "We felt that it was also a perfect opportunity to equip them with an IP-based system. IP is where the industry is going, and we wanted to put them in a position to reap the benefits this technology can offer."

Choosing MAX Dispatch

Hurricane Electronics presented two IP-based dispatch systems for AMR's consideration, one of which was Zetron's MAX Dispatch system. The MAX solution met all of the project criteria and also provided a critical feature no other console system could offer.

"We needed a system that would support our Harris radios and also interface with the county's Harris public-safety radio network," says AMR operations manager, Greg Doyle. "MAX Dispatch would deliver everything we required, including the interface to the Harris equipment. Although the other system we were considering could have been made to connect to the network, this functionality wasn't native to the product. As we weighed this and other factors, it became clear that the MAX system was the best fit for us, so this is the system we chose."

The installation process

To get the project started, Hurricane Electronics set up a temporary dispatch location so AMR's dispatching operations could continue while the control center was being remodeled. Then, once the shipment of new equipment arrived at Hurricane's office in Gulfport, they staged and tested it. With literally hundreds of IP-based installs under their belts, they brought considerable expertise to the project.

"We racked the equipment, integrated the interfaces, and did all of our programming so everything within reason was worked out," says Lancaster. "When the time came to install the system, we took it down, transported it to AMR's office, and reassembled it in their control room. It was just a matter of cabling at that point."

Multiple layers of redundancy

Lancaster explains how an extra layer of redundancy was added to the system for AMR. "MAX Dispatch is inherently highly redundant and reliable," he says. "But to maximize this even further, we installed two of everything on two separate networks. If a network or piece of equipment ever goes down, they have multiple backups."

Easier to use

Once the new equipment was fully operational, the dispatchers moved back into the control room and were trained on the new system.

"The transition from button-based equipment to a state-of-the-art system was met with some resistance at first, especially from dispatchers who'd been using the old equipment the longest," says Doyle. "But it wasn't long before they got the hang of it and saw how much easier it is to simul-select calls and perform their other operations. Now, they're very happy with it."

A pathway to the future

AMR's new MAX Dispatch system went live in January of 2013. Doyle is very pleased with its quality and ease of use, and appreciates the collaborative effort that made the project a success. "Zetron and Hurricane worked very well with us from the start," he says. "We all created a project chart and timeline, and they stuck to it. The coordination and communication on the project were phenomenal."

Lancaster, too, is happy with the results of the project, especially the new system and the long-term benefits it offers the customer. "Not only is MAX Dispatch a great system and money well spent," he says, "but it gives AMR the foundation for an IP-based platform that will eventually control everything and will support remote operations if they ever need it. It gives them a clear pathway to the future." ∎

Zetron's flexible, IP-based MAX Dispatch supports easy expansion, resource sharing across systems, and increased mobility and remote options. It also provides an easy, cost-effective migration path from legacy to emerging technologies.

- **State-of-the-art UI:** Displays information pertinent to the task at hand. Reduces clutter. Minimizes operational steps.
- **High reliability:** End-to-end network redundancy keeps the system up and running even if the IP network goes down.
- **Easy installation and maintenance:** Continuously monitors network performance. Supports remote configuration and maintenance.
- **Flexible, scalable:** Future proof. Utilizes centralized and distributed architectures. Scales from a single LAN to a multi-node, geographically diverse WAN. Adapts to evolving technologies.

Zetron's MAX Systems Improve Public Safety in Colombia

Sabaneta's new command-and-control center features Zetron's MAX Dispatch and MAX Call-Taking.

Zetron's new MAX Call-Taking gives you the solid reliability and performance you expect from Zetron in a breakthrough, Next Generation 9-1-1 system. MAX Call-Taking is SIP-standards-based, ready to meet i3 industry standards and scalable for multiple PSAPs.

- State-of-the-art UI
- Skills-based routing
- Automatic Call Recovery
- IP-based flexibility
- Stand-alone or hosted design

• Five mobile installations that provide remote dispatching, GPS tracking and integrated mapping. (At this writing, 15 more are being installed.)

The operator positions were installed at what would become Sabaneta's new central dispatch center. It consolidates several separate monitoring centers into a single site. The solution's controllers and servers were installed at UNE's data center in Sabaneta.

'We can work with that'

Although Zetron was originally chosen for the project because of their technology, they soon proved a worthy partner in other ways as well. "For reasons unrelated to the equipment, the pilot took longer and was more complex than anticipated," says Prest. "But Zetron's expertise, patience and cooperation were invaluable, with Zetron's technicians stepping up at every opportunity. When a requirement changed mid-stream, their response was always 'We can work with that.'"

Once the installation was complete, the pilot ran a total of 90 days. "If the pilot succeeded," explains Zetron Sales Engineering Supervisor, Tim Wilmot, "Sabaneta would start paying a monthly fee to use the equipment instead of having to buy it outright."

The scenario hits the streets

To help officials better understand the equipment, MobileTec devised a "real-world" scenario designed to demonstrate on paper the key features of the full solution. The scenario began with a phone call reporting a car accident, then moved through the many complications that can arise from such an event.

Sabaneta officials were so taken with the scenario that they enlisted UNE's assistance to take it a step further. "They re-enacted it on the streets of Sabaneta," says Prest. "They shut down an area of town, simulated a car accident, and sent police, fire and ambulance to the scene."

The exercise revealed in very concrete terms exactly how the equipment could improve the effectiveness and efficiency of their response to an emergency. This not only impressed Sabaneta's officials, but confirmed that the approach would help UNE fulfill its mandate to improve public-safety communications throughout Colombia.

Call volumes go up, crime goes down

At the end of the 90-day pilot, Sabaneta officials deemed it an unqualified success and signed onto the leasing program. They began realizing benefits almost immediately. The number of calls their central dispatch could handle tripled. A dramatic drop in crimes such as burglary was also attributed, in part, to their new communications capabilities.

But perhaps even more compelling than these statistics is the response of city officials who participated in the project. "The best thing is seeing the gratitude of Sabaneta's officials, how well they've adopted the equipment, and how proud they are of it," says Prest. "It's making a real difference in their community."

The solution bodes well for the future of public-safety communications in South America. UNE is already in discussions with municipalities throughout Colombia to determine their interest in participating in such a program. And MobileTec is exploring whether they might reproduce this same model in Bolivia. ∎

UPCOMING TRADE SHOWS

Pacific Maritime Expo
October 7 - 9, 2013 | Sydney, Australia

IACP
October 19 - 23, 2013 | Philadelphia, PA

Atlantic APCO
October 14 - 16, 2013 | Hyannis, MA

WI NENA
October 20-23, 2013 | Wisconsin Dells, WI

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