



Sinaloa, Mexico, Sees Connected Cities as Safer Cities

Background

In Sinaloa, Mexico, enhancing public safety and security is job one. Sinaloa's climate and terrain are perfect for supporting its booming agricultural and industrial economy, and this prosperity is dependent on effective law enforcement efforts that combat the influence of powerful drug cartels entrenched within the region.

Culiacan is Sinaloa's capital and largest city; over 850,000 people live within the city and surrounding municipality. It is from there that M.C. Jose de Jesus Galvez, the state's Secretary of Innovation and close aide to the Governor, is busy at work creating the state's first unified security solution that he hopes will become a model for all of Mexico.

All major cities in Sinaloa have been secured by citywide surveillance solutions for well over a decade. While these systems have been effective at the local level, the state recognized the need for a more secure, responsive environment capable of providing a single-seat view of their entire security domain.

The new statewide initiative seeks to combine these disparate citywide systems within a single platform, allowing for greater coordination between all municipalities and their law enforcement agencies. The solution, made possible through the combined effort of Vicon's technical team and value-added-resellers in Sinaloa, is built upon Vicon's new 100% web-based and true open standards video management solution, Valerus.

Why Valerus?

As with many city and state governments, Culiacan and Sinaloa lacked extensive financial resources to pay for their security upgrade; yet it was not an option to consider any solution that required compromises in performance or reliability. M.C. Galvez says that Vicon's Valerus was able to provide a centralized system, with localized control and operation, which was flexible enough to work with much of the equipment that was already in place in each city. All the features that the state required were included.

Organization

State of Sinaloa,
Mexico



SINALOA
GOBIERNO DEL ESTADO

Challenges

- Combine disparate citywide surveillance systems into one statewide platform, providing a single-seat view of the entire security domain.
- Preserve use of much of the equipment already in place within each city's system.
- Minimize cost and labor required to keep system current and well-maintained over time.
- Provide mechanisms for integration and/or collaboration with other physical security and life-safety systems.

Solution

Vicon's Valerus Video Management System was chosen for its affordable licensing, web-based, thin-client interface, range of features and true open standards. The solution allows the state's security team to access the platform from anywhere, using computers it already had in place, resulting in savings to invest in additional coverage zones. With thousands of cameras connected, and more to come, the Valerus health dashboard helps identify bottlenecks, communication issues and bandwidth consumption, helping to ensure that the system stays fully operational and optimized.

Results

Valerus has given the state an important tool to help lower the crime rate and protect the citizens of Sinaloa, with the flexibility of unlimited future system expansion, and accomplished all of this while staying within the state's budget.

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~ M.C. Galvez, Secretary of Innovation

He was impressed with its completely web-based, thin-client interface, system-wide health monitoring capabilities and the true open standards on which the software was developed. Plus, the cost to purchase and install Valerus was less than for other video management systems, providing long-term, recurring savings that he will then be able to invest in additional equipment and system expansion over time.

Ultimately, the deciding factor to move forward with Valerus was M.C. Galvez's confidence in Vicon's commitment to customer satisfaction and product support. The solution came highly recommended by security advisors who successfully supported the city of Culiacan's security needs in the past using Vicon solutions.

The Thin Client Advantage

Vicon's thin client provides tremendous value," explains one of the most important systems integrators involved in the project. "Using a traditional thick-client solution, the cost and hassle of maintaining current software on all monitoring stations is prohibitively expensive."

M.C. Galvez adds, "In the past, every time an upgrade was released, we spent a lot of time and money bringing all of the system's PCs up to speed. With the Valerus thin client, all of that has been eliminated. The only hardware that requires a software upgrade is the Application Server. The monitoring stations are always current and require no maintenance whatsoever."

M.C. Galvez says that his security team "can access the platform from anywhere, from any computer. We've been able to use many of the computers we already had in place that were running Windows 7 or later, and we didn't have to purchase any workstation/client licenses. This saves us a lot of money that can be reinvested in expanding coverage zones."

In addition, Valerus does not require any annual relicensing of cameras. When compared with software solutions that were in use in other cities throughout Sinaloa, this made a huge impact on the bottom line. Culiacan, alone, has over 1000 surveillance cameras in place. In a system of that size, the Valerus' model is a game changer. "Vicon has given us the ability to stay within budget with their pricing structure," says M.C. Galvez.



Managing System Health

Keeping all cameras up and running is a challenge for any city. This is particularly true in Culiacan, where criminals regularly try to disable or remove them. "We actually had a situation where a camera was installed at a traffic intersection, and by the time we got back to the command center to connect it to the video management system, it was already gone!" says Vicon's technical team.

Valerus' built-in health dashboard makes it easy to keep track of the status of all cameras, even in an installation of this size. It also provides performance data for all NVRs, the Application Server and transmission network. "The monitoring dashboard helps us to identify bottlenecks, communication issues between cameras and NVRs and, most importantly, how much bandwidth we are consuming." It also supports the city in its frequent interactions with insurance companies. "When a camera is taken out due to vandalism, we can prove to the insurance carrier that it was fully functional just prior to the incident. This makes it possible to get the camera replaced immediately," explains M.C. Galvez.

Added Value through Integrations

Because Valerus is built upon true, open standards, it has proven to be a flexible VMS option for unifying the many systems in place throughout the cities of Sinaloa. It also allows for integration with a wide range of software that provides additional layers to surveillance operations.

License Plate Recognition (LPR) is one example. The city of Culiacan has over 800 specialty cameras connected to its LPR system. Vicon engineers custom-designed and manufactured these cameras for the city in order to meet the specifications of the LPR software already in place, made by Spain's Neural Labs. License plates captured by these cameras are matched against a database within the Neural Labs software. If a suspicious vehicle is identified, corresponding video from surveillance cameras can be immediately called up and shared with law enforcement officers within the vicinity. In addition, the LPR video is stored within the Valerus system, where it can be archived alongside surveillance video for evidence when building a criminal case.

Integrations with other applications are also in the works. The use of facial recognition technology is high on the city's priority list, as are sound sensor systems that can geo-locate the source of gun shots, and more widespread use of panic buttons throughout the community that can automate emergency response procedures and summon assistance from law enforcement. "We have many ideas for the future, and are confident that Valerus will provide us with the integration capabilities that we need."

Command and Control

As the capital of Sinaloa, Culiacan's control center serves as a centralized coordination hub for security and life-safety operations at the city, municipal and state levels. Captain Victor Cisneros, Director of C4 Command and Control Center, is head of this brand new, state-of-the-art facility, which features separate spaces for the various departments, each of which function autonomously. Expansive video walls, recording servers and monitoring stations provide operators with access to all cameras within their respective domains. However, when necessary, the Valerus system makes it possible to share video across departments, facilitating more collaborative and successful response efforts.

For example, operators within the city's equivalent of a "911" call center, although a separate division from the city police, can request access to cameras located within the vicinity of an emergency call, so as to share video with ambulance teams and other first responders being sent to the scene.

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At the control center, video from cameras is received over a citywide, high-speed fiber optic network that would be the envy of many American cities. Even with the huge camera count, the command center is able to receive and display full 30 frame-per-second video from all cameras, many of which are high definition models. The video is recorded to massive 57TB storage units.

As additional cameras are added to the system, the city plans to take advantage of new H.265 models that will deliver greater efficiencies in bandwidth utilization and storage. The Valerus video management software supports the H.265 standard, and Vicon offers an extensive new line of H.265 cameras. This means that as additional cameras are added, or older ones are swapped out for H.265 models, minimal investment will be necessary for enhanced network infrastructure or storage capacity. "H.265 readiness gives us confidence that the system we're investing in now is prepared to serve us well into the future," says Captain Cisneros.

Local Support Delivers True Partnership

M.C. Galvez expresses great appreciation for the value that Vicon has brought to this project. "The knowledge and understanding that Vicon and its value-added resellers have, for the challenges we face and technology and infrastructure we have to work with, has given us a solution that exceeds all of our expectations. And, they've done it within our operational timeline and budget."

He is also quick to acknowledge the unparalleled level of manufacturer's support provided by Vicon, which has both a local representative in Mexico and a dedicated tech support team assigned to the project at its New York headquarters. "Vicon is playing a critical role in helping us monitor the installation and growth of the system, and providing us with insights into best practices for VMS use," says M.C. Galvez.



M.C. Galvez, Secretary of Innovation



Next Steps

With about 1800 cameras currently in place throughout Culiacan, combining surveillance and LPR systems, the city is well on its way to its vision of approximately 4800 total cameras. In addition, work has begun in Mazatlan and Los Mochis, two other cities in Sinaloa, which will ultimately be part of the statewide network.

Culiacan also has a second surveillance monitoring center, currently operating on Vicon's older ViconNet platform. In 2018, Vicon's new Valerus-ViconNet "Gateway" will make it possible to view and manage that entire network within the Valerus platform, without replacing any existing hardware. Like other monitoring sites throughout Sinaloa, operators at this center will then have the ability to fully share and collaborate with officials working anywhere within the unified Valerus network.

"This is a very ambitious project for us," says M.C. Galvez. "We hope to use every function of Valerus to help lower the crime rate and better protect the citizens of Sinaloa. We understand that video isn't the only way we will achieve this, but it's a very important part and can help us bring other systems together to be more effective. We're excited about the possibilities."



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