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Security Project of the Year

Kansas Corrections Retrofit

How Stanley Security's Mickey Wydick, Captain Jarod Schechter and Mead & Hunt's Jeff Pronschinske came together to spearhead a massive security upgrade at Sedgwick County Adult Detention Facility

Security Project of the Year: Kansas Corrections Retrofit

Stanley Security and Mead & Hunt partner for massive security upgrade at Sedgwick County Adult Detention Facility

By Steve Lasky

As security projects go, correctional facilities present perhaps the most unique circumstances for systems integrators and their consultant and A&E partners. Not only are they subject to stringent timelines, tight budgets and state/federal oversight – but the team must also keep security systems up and running throughout the entire project.

So it was for Stanley Convergent Security Solutions sales engineer Mickey Wydick and his project team as they partnered with Mead & Hunt, a national firm offering planning, design, architecture and engineering services, in an extensive and broad-based retrofit of the Sedgwick County Adult Detention Facility – which, at 468,000 square feet and 1,200 beds, is the largest correctional facility in the state of Kansas.

The extensive project has been recognized by *SD&I*, *Security Technology Executive* magazine, SecurityInfoWatch.com and SecuritySpecifiers.com as the Elliot A. Boxerbaum Memorial Award winner for best security project of 2017.

Bringing Security into the 21st Century

More than 25 years old, the facility's original proprietary door control systems had begun to fail, and the obsolete security system was in serious need of an upgrade and required replacement.

The project involved a complete upgrade and replacement of the existing jail security system while making effective reuse of existing cable infrastructure; as well as the complete replacement of the existing analog video surveillance system through the addition and updating of more than 500 surveillance cameras and the addition of a video storage system – which the facility had done without for the past three decades.

Stanley's correctional systems division installs and retrofits security systems for correctional facilities, jails and courthouses around the country; in fact, the division has completed more than 600 in the 13 years Wydick has been with the group.

The facility opened in 1988, and according to both Wydick and Jeff Pronschinske, security project leader for Mead & Hunt, the technology had remained frozen in time. From the door controls to the video, it was substandard technology. "Brand new correctional-grade security projects coming right out of the ground are less



The Sedgwick County Adult Detention Facility is a huge, 468 square-foot facility that is the largest correctional facility in the state of Kansas.

complicated; however, when you get involved with retrofits where the electronics are so incredibly outdated, it is a matter of going in and trying to bring them into the 21st century and the digital age," Pronschinske says.

Sedgwick County Sheriff Jeff Easter knew when he took office in 2012 that a complete overhaul of the facility was a necessity and, in fact, was already in the planning stages. "I didn't understand some of the needs of the project since I was new, but as time went on it was evident that we needed not just the cameras, but an entire retrofit of the master control rooms with a complete overhaul of cabinets to carpentry," Sheriff Easter says.

"Everything in the facility was analog, and it was all hardwired," Pronschinske adds. "The door controls were hardwired to dip-switch control panels that allowed you to open and close doors using a physical switch."

The integration team chose to reuse a substantial amount of existing coax cable infrastructure while replacing the mechanical dip-switch panels with computer touchscreens.

The video surveillance system was also analog and had no recording features – a major liability in today's corrections environ-

ment. “The general practice today is to put inmates on camera from the time they enter the facility all the way through the time they are released,” Pronschinske explains. “All movements need to be recorded to protect the (facility) from any potential liability related to the inmates themselves.”

In addition to an antiquated electronic security system, the project also involved a complete renovation of the existing master control station, along with construction of new security electronics equipment rooms and implementation of a centralized UPS system. Additional upgrades included new digital video surveillance and door control intercom systems.

Corrections vs. Commercial

Wydick says the biggest difference in working a commercial project vs. a correctional project is the downtime associated in commercial. “You can work at night – from 12 to five in the morning – and not have anyone to deal with on a commercial project,” he explains. “A correctional facility is obviously a 24/7 around-the-clock operation. Our engineers are in there working around the inmates being escorted the majority of the time.”

Completing such an extensive retrofit/upgrade project in an existing, working facility is difficult when the customer would like to keep the current systems up and running as long as possible to eliminate any downtime. “In a correctional facility, there is no allowance for downtime – that was another big piece of the project we had to navigate,” Wydick says. “For the most part, we were able to keep the existing system online until the actual switchover to the new system.”

Of course there are a variety of other differences when working within the confines of an active correctional facility compared to a commercial project: Contractors must inventory their tools at the beginning and end of each workday; and on the Sedgwick County project in particular, contractors had to be trained to conduct themselves in accordance with the laws stipulated under the Prison Rape Elimination Act (PREA).

Movement within the facility was restricted – especially when headcounts were taken or when tactical teams were responding to incidents.

Special provisions also had to be made during the cutover of critical perimeter security systems.

These unique construction requirements, and others like them, require significant collaboration between the owner, design, contracting and manufacturing teams to be successful. A delicate balance of construction phasing, watchful security escorts, and skilled contractors knowledgeable about the intricacies of working in a high-stress, high-security detention environment is a must.

With more than 30 years of detention-grade security experience, Mead & Hunt drew from lessons learned on past projects to assemble and coordinate a team that not only delivered a successful project, but did so with minimal disruption to existing security and operations.

“It is a niche field that is different from commercial-grade security because it is PLC-based – integrated security through a PLC platform – whereas a commercial-grade project integrates through a card access platform,” Pronschinske says.

Both correctional and commercial-grade security systems involve the integration of low voltage security systems under a single Graphic User Interface (GUI); however, in commercial markets,



The facility’s previous analog system provided video surveillance footage that wasn’t recorded – a major liability for a correctional facility in the 21st century.

security integration is accomplished using the card access controllers that alarm to card access subscription PCs. In detention markets, on the other hand, security integration is accomplished using Programmable Logic Controllers (PLCs) and industrial-grade relays that alarm to touchscreen workstations.

As the backbone of a detention-grade security system, PLCs are built with reliable, industrial-grade electronic components. With a shelf-life of anywhere between 25-30 years, their failure rate is limited; in fact, PLCs have been used successfully in detention markets for decades. They are also widely used in manufacturing, mining and water resources.

PLCs are beneficial as the security backbone because they can integrate a greater variety of low voltage security systems under a single GUI. Card access systems, for example, are typically able to integrate simple contact closures such as electronic locking hardware, duress alarms and video surveillance systems – while PLCs can further expand system integration to also include facility-wide paging systems, door control intercoms and emergency mass notification systems. Most importantly, they can do so in an open-architecture, non-proprietary, non-restrictive manner.

Another major difference in corrections is system cutover – when the old security system is brought off-line and the new security system becomes operational; in fact, it is perhaps the most critical and sensitive part of the project. “You just can’t just go in and close the doors of the facility,” Pronschinske says. “They have to stay operational, so you have to be extremely creative while you implement the new technologies.”

Using a phased approach, non-critical systems such as lighting, utility and water control were brought over first. More critical security components like door control, duress alarm and video surveillance systems were slowly incorporated into the second phase; and mission-critical systems such as perimeter security were only performed on third shift when inmates were locked down and the facility was less vulnerable.

Inside the End-User/Consultant/Integrator Relationship

In a project of this size and complexity – and mostly specification-driven – the systems integrator and end-user must count on a

quality security consultant and detail-oriented A&E team.

“As integrator, we followed the lead of the consultant (Pronschinske) and did our best to meet the specs,” Wydick says. “When planning the job, we looked at the totality of the system – we consider it one system, although there are many facets that are involved in access control, door controls, video and so on. The system is completely interconnected, communicating and working together.”

A lot of up-front planning is needed, which included numerous meetings with county and correctional officials before the project started, continuous meetings on-site, and just as many meetings at Stanley headquarters to plan and create the best and safest project plan for the retrofit.

“If Stanley, the facility owner and the security consultant all agree on a collaborative game plan, it certainly makes the rest of the project go a lot smoother,” Wydick says. “Planning is key to a successful project. For a retrofit like this, if there is cabling or technology that can be reused and modified, we will do that. If we can reuse door control and intercom cabling, that helps the retrofit go smoother and is less expensive.”

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— Mickey Wydick, Stanley Convergent Security Solutions

Pronschinske stresses that the single most important step in designing a detention-grade electronic security system is specifying components that are non-restrictive and non-proprietary. The goal of the upgraded systems was to give the county technology they could either maintain themselves or competitively bid for future maintenance and expansion.

All hardware and software components were specified to be “off-the-shelf” and non-proprietary, including industrial-grade PLCs, standard DIN-mounted industrial-grade mechanical relays, and standard 24VDC or 120VAC power supplies. This enables the county, once the project was complete, the ability to purchase its own parts from an electronics distributor of their choice.

“At the beginning of the project and planning phase, we brought in staff from all different levels of the facility – from line staff to deputies, from supervisors to lieutenants and administrators – to really look at how we do the job, identify the most efficient processes and how they can be improved,” explains Jarod Schechter, Captain and Support Division Commander for Sedgwick County’s Sheriff Department. “We didn’t want to be limited by technology – instead, we wanted to find technology that would do what we needed it to do and find companies like Stanley that were willing work with us in creating technology design to function like we needed it to work, function and look.”

As large and complicated as this project was, Schechter says his staff had a very good relationship throughout the process with both the integrator and the consultant.



The project included a complete renovation of the facility’s master control station.

“We had a lot of meetings with (Pronschinske) leading up to the project to let him know our expectations as they related to cameras and controls and the ability to have off-the-shelf cameras – since we didn’t want to be tied into one particular system and vendor,” Schechter says. “We were looking for any type of plug-and-play IP camera as long as Stanley could detect an IP address to load into their system. We talked about the functionality and programming that we wanted, then (Pronschinske) would tell us what we could actually do.”

As part of the project, Stanley flew Schechter and his team to the company’s headquarters in Indianapolis, where they mocked up the entire facility. “They had every single terminal up so we were able to go from housing unit to housing unit to see how everything functioned,” Schechter says. “We deliberately brought deputies who would be operating these systems as well, because they would be the personnel that would tell us if everything functioned correctly.

“That was a big key to this project –we were able to fix all these issues on the ground in their facility before anything shipped, and we were able to solve a lot of integration issues onsite,” Schechter adds. “In fact, (I learned) that we should have given more time for the integration programming on-site at Stanley – it didn’t hinder the project, it was just one of those lessons learned.”

Adds Sheriff Easter: “We are very happy with every aspect of the project and are just now getting ready to do some modifications in our work-release facility, setting up the electronics just like we have in the main facility. It has saved us a lot of time and headaches – not to mention lawsuits – by having the new (digital) camera system. The deputies love the new master control system, since it is so much easier to use. It has made the facility a lot more safe and efficient – we can see everything and react a lot quicker.” ■



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