

Jail Enhances Security Network with Ignition

Officers Now Easily See and Control the Entire Facility



Mendocino County Jail is split into two large facilities that require constant surveillance.

In many fields today, organizations use technology to help close the gap between the rising demands they face and the limited resources they have. In the field of corrections, this dynamic is seen as the officers who run and maintain correctional facilities use technology to oversee an increasing population of inmates using a limited number of officers.

The security risks posed by the disparity between the number of inmates and guards has led the Mendocino County Jail in Ukiah, California, to use software that allows the officers to monitor and control intercoms, door locks, and cameras from a central location.

Challenge: Slow System Caused Security Risks

On paper, the security technology that Mendocino County Jail used prior to 2014 was a perfect fit for its day-to-day operations. But in reality, the system had become outdated and its performance was not up to par.

The relatively primitive system used switch panels and proprietary hardware. All actions performed by the officer on duty, such as opening and closing doors, switching to intercoms to communicate

with other officers, and viewing cameras at different locations, were done by pushing buttons.

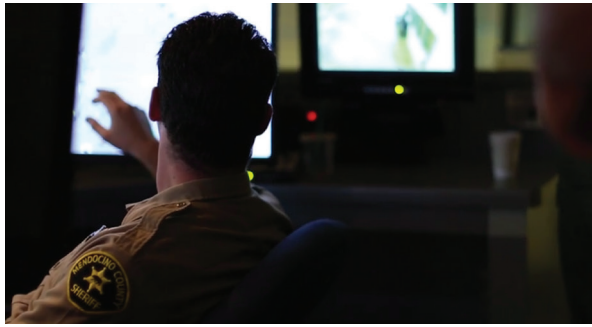
In addition, the existing system was inefficient and hard to maintain. Because the jail consists of two separate buildings that each have their own control room, the old system required a different officer to run each room. Because the system used obsolete, proprietary hardware, technical support was no longer available. The fact that the facility is split into two very large buildings also posed challenges. All of these factors pointed to the need for an entirely new system.

Solution: Use HMI to Integrate with Devices

To address its technology problems, Mendocino County Jail sought assistance in 2013 from Integrated Control Systems (ICS), a small controls integration company that specializes in control systems within detention facilities. The ICS team evaluated the jail's existing system and quickly realized that in order to fix the latency and control issues, and make the system much more user-friendly for the guards, the jail needed to switch to a modern solution based on Ignition by Inductive Automation®.

When ICS was first introduced to the project, John Pegram, the company's president, began examining the needs of the facility and started putting together a bid. "We started with the design of this project back in February 2013, it went out to bid and was accepted in August of that year. We completed the project in January of 2014," says John Pegram.

The project required a heavy amount of integration on a large scale, and Ignition software was well-suited to the task. Because Ignition is written in Java, with a server-centric model and an unlimited number of tags, it allows facilities to easily connect all of their devices and software systems, and to manage all of their data from a central location.



With Ignition, ICS reduced the delay between the controls and the cameras monitoring the facility.

“Before this project we would traditionally see PLCs as the central integration point for doors, cameras, and intercom systems. This is the first that we’ve used the HMI to do all the integration with the other devices,” says John Pegram. With the use of the HMI (human-machine interface) in the central control rooms, the officer on duty can easily see and control the entire facility. The touchscreen graphical interface contains icons for the jail’s maps, cameras, speakers, and doors, which make the system easier to use.

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– John Pegram
Integrated Control Systems

Monitoring the entire facility with cameras is one of the key features of the system, and one that proved to be a challenge for ICS. Going through a third-party closed-circuit television (CCTV) vendor for the cameras, ICS first tried using the vendor’s monitoring program as well. This proved not to be very efficient or secure since there was a one-to-two second delay from the controls to the camera. Nathan Pegram, lead engineer with ICS, decided to incorporate the cameras into the Ignition software instead. With this setup, there are now mere milliseconds of delay between the controls and cameras.



Operations are now running smoothly at the jail, with all of its devices and systems connected.

The jail now has an efficient and integrated control system that is fully functional for its daily operations. Despite a limited budget, it was able to afford the features it needed through Ignition’s flexible licensing model of unlimited tags, clients, and connections.

Results: Greater Security and Maintainability

With Ignition now in place, operations are running smoothly at Mendocino County Jail. The officers are very pleased with the new system, which requires less training to operate and has helped them to perform their jobs better. It has increased the level of accountability by keeping track of the officers’ actions, such as when they open or close doors, and their responses to phones and intercoms. Overall, the new system has given the officers a better sense of safety for themselves and the inmates, which is the number-one priority for this type of system.

Using Ignition as the platform for the new system, ICS is able to continuously work with Mendocino County Jail to tweak and add features to it. Ignition’s flexibility even after installation has been extremely helpful to the ICS team. Whenever any problems or needs for additional features have come up, the integrators at ICS have been able to find and implement solutions quickly and effectively.

“I’ve used almost every major HMI package that’s out there, and at that point decided that I wanted to pick what I thought would be a winner, and I feel strongly that I picked the right product with Ignition,” says John Pegram.

Integrated Control Systems (ICS) is a Santa Rosa, California-based system integration company specializing in control systems within detention facilities.