Traditionally, command centers are considered part of the security operations domain. Cameras, intrusion detection systems, video and audio recordings, and alarms are just some of the security-related systems effectively monitored and managed in traditional command centers.

However, threats to an organization are not limited to physical security, and command centers can process data from a wide range of sources, offering risk mitigation throughout the enterprise. The ubiquity of IP-enabled technology, the increasing access to raw data, and the desire to minimize information silos expand the role of command centers. In this white paper, you will learn how investing in a command center can benefit the entire organization.

The Iowa Communications Network created a visual operations center capable of providing advanced, carriergrade support for their operations.

Louisiana’s Port Fourchon’s upgraded emergency operations center is better prepared to handle crisis situations after implementing a Christie Phoenix Content Management System.
Role Within an Organization
For decades, certain industries have harnessed the power of a command center to support business operations beyond security. For example, telephone and data providers monitor outages, traffic, and data flow by region. Command centers are ideal for managing operations on waterways, highways, and public transportation networks.

In general, command centers enhance situational awareness, so events can be managed quickly and effectively. In the security world, that often means responding to physical threats. When a locked door is suddenly opened, an alarm sounds, and a streamlined response begins.

"In the old days a security guard would consult a notebook, saying, 'What do we do when door number 32 is opened? Do we send a guard? Point a camera at the door?'” says Richard Derbyshire, CTS-D, consultant relations manager at Christie. Modern command centers offer an entirely automated environment.

“The response in the software is to trigger some form of alarm that then alters some aspect on the visual display,” Derbyshire says. “You have an intrusion detection, a connection outage in your security system, or some other abnormality. You also have an automated sequence to point a camera at the door, call up a series of response procedures, or display the scene of intrusion.”

Command centers often feature a large-format video display. For example, the screen might show a geographical map of a campus or a series of different images that change from green to red when an alarm status is triggered. The anomalous event is clearly registered by everyone in the room and—if required—elsewhere in the organization. What’s more, command centers provide flexible monitoring. Visual displays are networked; they can be monitored remotely, from a laptop, a smartphone, or a backup command center. “The shared display within a shared space enhances understanding of what’s going on in the area you are covering,” Derbyshire says.

Beyond the Security Budget
“Command centers are best applied when monitoring systems,” Derbyshire says. “Think of all the different entities in the world that can be construed as systems.”

Command centers are valuable tools for securing physical assets, but they also provide situational awareness that extends beyond security, mitigating risks, and safeguarding business processes. “Command and control environments are used for multiple aspects of the business, on both the commercial side and the government side,” says Ronald Willis, a senior associate at Shen Milsom & Wilke, LLC, an international technology and acoustical consulting firm.

For example, a command center can monitor the IT network across the corporation. “It has some aspect of security,” Willis says, “but
the cyber guys are doing security. This is network or content monitoring," he adds. "You might be a software development firm working on a video wall so that everyone can see it and track progress."

Integrator Dan Gundry, a senior control room specialist at Vistacom Inc., agrees. According to Gundry, one of easiest ways to leverage a command center is to integrate IT and physical security. "It provides the ability to leverage the same content to achieve the same goal—protecting the organization's business interest and its people," Gundry says. "We’re seeing the integration of both IT and physical security to leverage that investment, leverage the space, and bring operations into alignment."

Providing everyone with a common operating picture improves responsiveness and decision-making by assimilating all the right data, Gundry adds. "When you take that concept and you move it beyond, you’re still talking about having the right info at people's fingertips in a highly functional way."

Derbyshire points to universities, which often integrate security functions within their data communications network command centers, either locating them in the same space or in adjoining spaces. "The security command center function is incorporated into the data network design because so much of the security system is an IP system," he says. "If you lose a part of your IP system, you lose a part of your security system."

**Supporting the Global Workplace**
The command center environment also supports global business and information sharing. "If you’re working on a project in Abu Dhabi and you have to talk to an engineer in Chicago, you can do a Skype call and talk to them while sharing content over the network," Willis says. "That information can be deployed and displayed on a virtual surface, or video wall surface. Whether you have a three-foot-square array or a 10 by 12-foot video wall, it's still a virtual surface. You can do anything you want on that surface."

Willis prefers the term “multi-array deployment” to command center, because the purpose of the technology and the way it is implemented can vary so widely. "I have a customer that has three different conference rooms, and they all have video walls in them," he says. "They have different size arrays but the main purpose is to be a conference room or multi-purpose room."

**Growing Trend**
Experts say that command center technology is being used in more buildingwide applications, particularly in emergency management, emergency operations, and other specialty buildings where it’s important to have flexible content. While these organizations may have a command center or control room, information must also be sent to breakout rooms, conference rooms, war rooms, and managers’ offices. "Using the Christie Phoenix platform as the backbone for video sharing across the enterprise and within a building is becoming more commonplace," Gundry says.

Command centers have a greater breadth of scope in an IP-enabled world, because a broad range of devices can be monitored. "Walk into a big building and, in your mind, peel away the finishes," Derbyshire says. "Look behind and ask, 'Why does that elevator go to the right floor every time? Why does the escalator stop and start when it’s supposed to?"
And how are the temperature and humidity controlled? They are all systems, and they can all be monitored and controlled by a central network.”

**A Case Study**

When Ohio’s Hamilton County Emergency Management and Homeland Security Agency (EMA) upgraded its facility nearly three years ago, it was looking for a system that was flexible and reliable. “Unlike a lot of security centers, we’re not stagnant,” says Steve Siereveld, the organization’s operations manager and emergency operations center manager. “Most of the time when we looked at security centers, they had the same 20 or 30 displays up all the time,” Siereveld adds. “We switch wall layouts as the incident dictates.”

The EMA coordinates emergency response to all natural and manmade hazards in Cincinnati, Hamilton County, and 12 counties in three states (Ohio, Kentucky, and Indiana). However, its emergency operations center is a 24/7 “warm” facility, which means it is not always occupied. “It’s nothing for weeks and weeks,” Siereveld says. “But when something happens it’s a million miles an hour right out of the gate. We need something that’s quick and responsive.”

In 2014, the EMA purchased the Christie Phoenix—a network distributed open content management system for simultaneous encode, decode, and display of AV data—to use with its street and river camera system. Phoenix captures the camera feeds and brings them into a full HD video wall of 32 Christie Entero high-brightness 67-inch LED cubes.

“We’re constantly changing and redrawing the screen, and the screen redraws are quick,” he says. “We didn’t need something that took a minute to change screen layouts; we needed it to take a couple of seconds.”

While the center is equipped to help operators react to large-scale emergency in-
Flat Panels
Large-format displays offer a flexible fit and are designed for years of low-maintenance, reliable performance. Some models feature built-in interactivity, making these large-format displays ideal for inspiring collaboration and information sharing in meeting rooms and classrooms or as part of an innovative digital signage installation.

LED Tiles
LED tiles are typically housed in a cabinet. The tile’s structure allows it to be hung from an external frame that enables larger arrays containing many tiles to be created. The mechanical design of the tiles ensures that each aligns very accurately to its nearest neighbors, resulting in a seamless composite image that can contain anywhere from several thousand pixels to millions of pixels, depending on how many tiles are used and how many pixels each contains.

Micro Tiles®
Micro Tiles® use DLP® projection and Light Emitting Diode (LED) technology to combine super-fine image quality with the flexibility to design displays in any shape or size. Images are brighter and the color range is wider than what is possible in conventional flat panel displays. LEDs offer low cost of ownership with no consumables and up to 65,000 hours before half brightness.

LED rear-projection cubes
The next generation of high-brightness control room LED displays, these cubes offer up to 1,350-lumen capability, and the brightest LED projection for cubes available. LED rear-projection eliminates consumables and the units are rated to 60,000 hours for low cost of ownership.
cidents—caused by weather or terrorism, for example—Siereveld says the EMA has not experienced such an event for a few years. Instead, the center is used on a regular basis for planned events throughout the year, like fireworks displays over the Ohio River; Taste of Cincinnati, one of the nation’s largest street festivals; and the 2015 MLB All-Star Game.

The organization also uses the operations center for meetings, simulations, exercises, drills, and national homeland security classes. Human resources even uses the facility for employee testing. “There aren’t many places where you can find 54 computers in a room,” Siereveld notes. “They might put a PowerPoint up or just put a timer up on the video wall.”

Regardless of its use, the command center is a steadfast tool for the EMA. “From a user comfort and the reliability level, Christie’s technology has been very advantageous for us,” Siereveld says. “With our old system, it was older technology and sometimes it would work and sometimes it wouldn’t. With our current system, I don’t feel the need to fire things up two or three hours ahead of a meeting. I’m comfortable turning it on five minutes beforehand, knowing it will work.” From an investment perspective, Siereveld says, “You can’t put a dollar tag on a life.” But he acknowledges that the Christie system saves the EMA money. With the old system, if a part broke, it had to be ordered from Japan and might take as long as three months to replace. Replacing bulbs cost approximately $50,000. “With the all LED, there’s one moving part, and we have no real maintenance,” Siereveld says. “Also, we have one set of spare components, and we can field swap them. If we do lose a display we can pull a module out and replace it. We’ve never had to do it, but we can if we need to.”

Conclusion
With today’s networked systems and IP-enabled world, command centers can do more than alarm and video monitoring. In the security world, command centers focus primarily on situational awareness of the physical environment. They improve responsiveness by providing all operators with the same picture and positively impact decision-making. The security investment of a command center can now be leveraged throughout the enterprise—to enhance communication, secure supply chains, protect business interests, and contribute to the bottom line.