



KEEP THE VIDEO. CUT THE CABLE.

**NITRO CBRS PRIVATE BROADBAND
SUPPORTS VIDEO NETWORKS**



CRITICAL BUSINESS OPERATIONS RELY ON VIDEO SECURITY

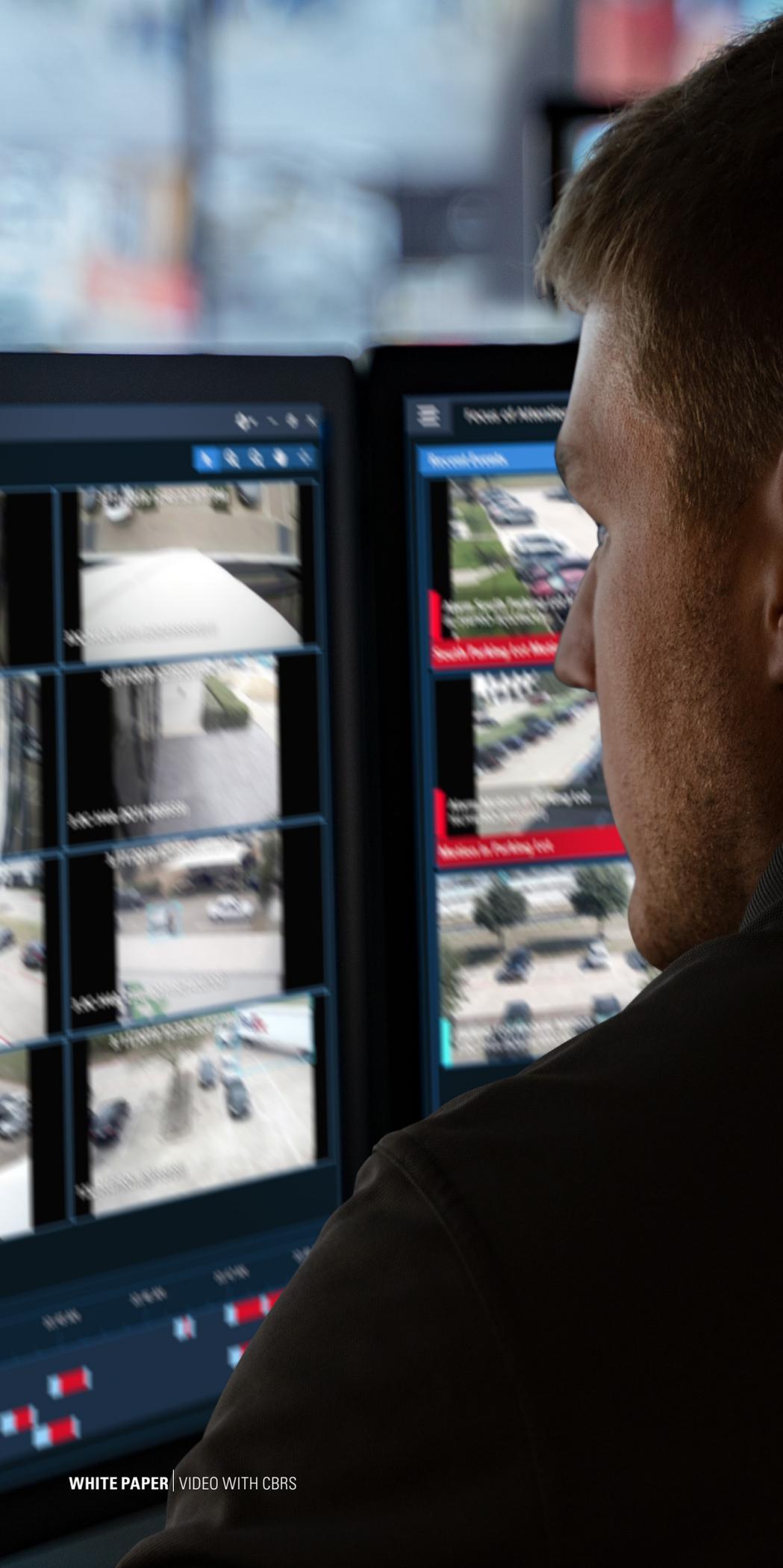


More and more businesses across the country are turning to video security and analytics to help manage critical operations. In fact, more than 30 percent of transportation, retail, hospitality and manufacturing workers listed video surveillance as one of the top three technologies necessary to manage their workplace operations more efficiently.¹ More than 66% of workers across industrial workplace operations are already using video security solutions.²

Whether it's manufacturers monitoring their production lines to ensure worker safety or hotels securing their entrances with access control, video technology and solutions are changing the way commercial businesses operate.

^{1&2} 2019 Motorola Solutions Commercial Markets Survey





AVIGILON VIDEO SOLUTIONS



CAMERA PORTFOLIO

Specialized cameras — including fisheye, multi-sensor and high definition — capture critical details and enhance visibility.



AVIGILON APPEARANCE SEARCH™ TECHNOLOGY

Technology sorts through hours of video using both physical descriptions and facial analytics to locate a specific person or vehicle in near real-time.



UNUSUAL MOTION DETECTION

Artificial intelligence (AI) “learns” typical activities and flags unusual motion.



SELF-LEARNING VIDEO ANALYTICS

Software detects abnormal or concerning activity and provides critical information.



AVIGILON CONTROL CENTER (ACC) VIDEO MANAGEMENT SOFTWARE

Provides an AI-enabled user interface that offers facial recognition capabilities and access control unification.

BETWEEN THE CAMERA AND THE CONTROL ROOM IS YOUR NETWORK

Your enterprise data network is the critical piece that connects your cameras, sensors, control and software. Historically, businesses had two network connectivity options when setting up a video security system: physically cabling connected devices with Ethernet, or Wi-Fi — a wireless networking protocol that does not require direct cable connections.



THE TROUBLE WITH WIRES

Businesses need their networks to be reliable, flexible and formidable when supporting critical video data. And while Ethernet is reliable, it lacks flexibility. Adding connections to your wired Ethernet network is difficult and can be extremely expensive.

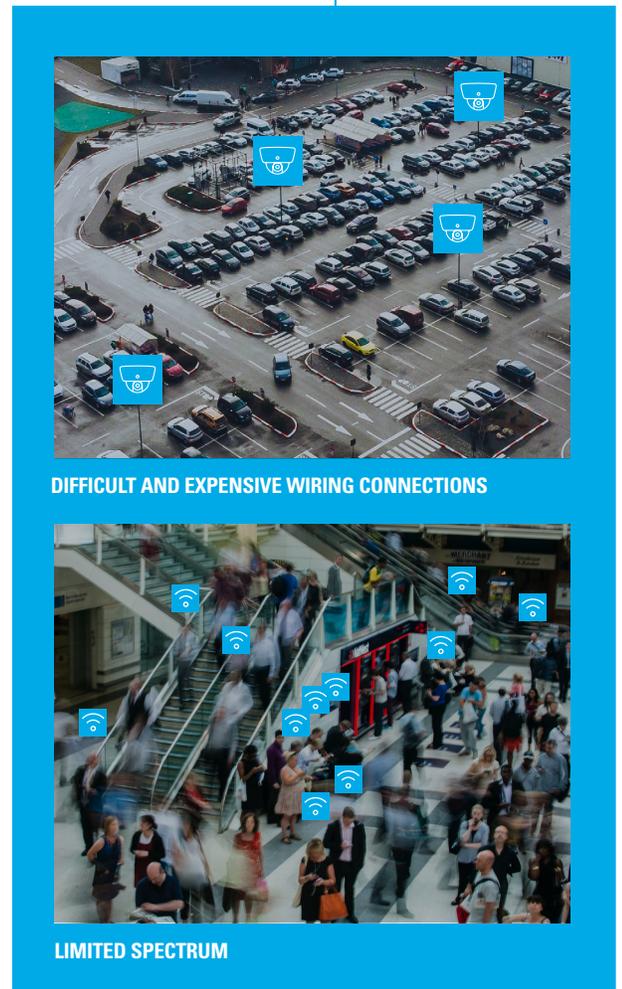
For example, let's say your facility wants to set up a camera system to improve safety that would monitor the perimeter of your building — including the parking lot and campus exterior extending to the security gates. A logical location for camera installation would include the light poles located throughout your current parking lot. If your facility is already built, this will require excavation to dig underneath your lot in order to run the infrastructure needed for the camera system installation. Any further additions to your outdoor camera system will require additional excavation in order to install.

THE TROUBLE WITH WI-FI

While Wi-Fi may provide the flexibility missing with Ethernet, it falls short in fully supporting security camera solutions. With Wi-Fi, your organization will be sharing spectrum with other businesses in the area — as well as Internet of Things (IoT) sensors and employee, customer or guest devices. With the proliferation of smart and IoT devices throughout business, the result is a staggering amount of equipment consuming the somewhat limited spectrum bandwidth in your facility. And with the demand for data on the rise, this device contention will only continue to grow.

For businesses that handle large amounts of visitors — including casinos and event spaces — the limited spectrum provided with Wi-Fi is ill-equipped to support a connected video system. Both customers and employees will compete for access to your data network, in addition to your security cameras. As a result of a finite amount of bandwidth, available spectrum will diminish — potentially interrupting your connection to your security camera network and putting customers, employees and guests at risk.

Range can be another challenge with Wi-Fi. Businesses often try to expand their range by blanketing their facilities with access points to provide better network connectivity. This solution can be costly. As your operations expand, the number of access points needed will continue to grow — leading to additional business expenses.





DON'T BRING CONSUMER BROADBAND TO COMMERCIAL SITES

Your video security solution is only as good as the network supporting it. Consumer broadband fails to meet the demands of commercial businesses — with limited range, lower capacity and potential installation costs for wired connections. Organizations need more enterprise-grade network solutions to support their growing video demands.

UPGRADE YOUR NETWORK WITH CBRS

With Citizens Broadband Radio Service (CBRS), your organization is able to access enterprise-grade private broadband. CBRS provides businesses with assigned spectrum that is not shared or licensed but is coordinated via an automated system. CBRS has nearly four times the range of Wi-Fi, enabling you and your team to move freely throughout your facility without losing connectivity between access points, which can be extremely disruptive to business operations. With twice the data capacity of Wi-Fi and upload speeds of up to 60 Mbps, CBRS is ready to support your business' growing video needs. **See next page for Wi-Fi vs CBRS comparison chart.**

FULLY MANAGE YOUR SYSTEM WITH NITRO

Nitro is the first, fully-managed platform that combines private broadband data with business-critical voice over CBRS. With Nitro, your business has access to enterprise-grade private broadband and its own dedicated spectrum — built specifically for enterprise use. In addition, Nitro extends your voice communications with push-to-talk over CBRS. Nitro is interoperable with your existing MOTOTRBO™ land mobile radio networks and will complement your current radio systems — ensuring you don't need to replace any devices. A simplified infrastructure makes it easy to deploy in minutes — just mount your access points, add power, connect to the internet, and configure your network through the Nitro Cloud Portal.

Two types of access points, designed for indoor or outdoor use, provide higher transmission power and greater coverage per access point to ensure your entire area is covered. With the network delivered-as-a-service, your core network is located in the web-based Nitro Cloud Portal. As a result, there are no major equipment purchases necessary and businesses are able to manage their network from anywhere around the globe. You maintain full management and control of your network and all local traffic stays local. And with the core in the cloud, your network receives instant updates, deploys the latest features without delay and experiences zero downtime for upgrades.

With Nitro's expandability, your network can easily scale with your business operations, ensuring you are primed for the future. Its ability to easily connect with other systems — including Avigilon cameras — builds a platform for a stronger security operations center. New cameras can be added without the need to run cables, enabling your business to expand to places that would have proven too difficult or too costly to wire.

With more and more business-critical operations relying on video, it's time to cut the cable. Support your video security network with Nitro's enterprise-grade private broadband and cableless connectivity and keep your business ahead of the competition.

WI-FI VS CBRS COMPARISON CHART

	WI-FI	CBRS	TAKEAWAY
CAPACITY 	Wi-Fi is a wireless network originally designed to be simple enough to deploy in homes and small offices.	CBRS was built from the ground up for large-scale and commercial use and address the shortcomings of Wi-Fi.	CBRS supports up to twice the capacity of Wi-Fi, which enables the distribution of data in amounts you never thought possible before. CBRS technology provides features required for large-scale industrial and commercial users such as increased data capacity, quality of service and security.
SPECTRUM 	Wi-Fi operates at either 2.4 or 5 GHz. Both bands are shared, unlicensed spectrum with no means of controlling how many networks or users in your area consume the same limited bandwidth.	CBRS runs in the 3.5 GHz band. This licensed spectrum that recently became available offers a robust, automated management mechanism that ensures your assigned frequencies are protected against interference.	CBRS offers you wireless data networking on exclusive spectrum without interference from neighboring networks or devices. No more guessing which Wi-Fi channels in your area are clear. You have full control of your network's performance — without having to apply for a license from the FCC.
COVERAGE 	Because it is unlicensed and built for home and office use, a Wi-Fi access point's power and range are limited. Covering a large building, factory or campus requires a large number of access points.	CBRS is built for coverage of larger enterprises. Its higher power specifications and handoff capabilities mean that each access point delivers up to 4x the range of Wi-Fi, allowing you to cover a larger area with far fewer access points.	CBRS can support up to 4x the range of Wi-Fi, so you can dramatically reduce your infrastructure and support costs — including power, backhaul, security and more, while providing better coverage and network performance.
MOBILITY 	Wi-Fi has no mechanism to handle a device switching between access points, like when you move to another part of the building. So as you move, you will experience diminished network performance and very likely full disconnection.	CBRS is built on a cellular technology. From the beginning it included a proven, sophisticated handoff mechanism that allows you to move about your territory with maximum network performance.	With CBRS, you eliminate the frustrations of Wi-Fi in a mobile environment: no dropped calls, no disconnections, no temperamental links — just solid network performance.
SECURITY 	Wi-Fi is commonly targeted by hackers as a way to get inside a business' network without ever setting foot inside a building. Since Wi-Fi is a wireless shared spectrum, it is much more open to eavesdroppers than private networks.	CBRS is a private network, which is more secure than a shared network. CBRS requires a SIM card to gain access to the network. SIM cards need to be activated on the network and is performed from a secure PC login.	CBRS enables enterprises to build and operate their own private networks, secure from eavesdroppers looking for potential weaknesses within shared wireless spectrum.
TRAFFIC 	Wi-Fi is unable to differentiate classes of traffic. Whether it's a critical video feed or a low-priority file download, all packets look the same.	CBRS has built in Quality of Service (QoS), which enables prioritization based on the application.	CBRS is able to prioritize important traffic in business-critical situations, whereas Wi-Fi is unable to make this type of distinction.

For additional information about CBRS products, please visit: motorolasolutions.com/Nitro

