

Your Trusted Partner in Automation

Moxa is a leading manufacturer of industrial networking, computing, and automation solutions. With over 25 years of industry experience, Moxa has connected more than 30 million devices worldwide and has a distribution and service network that reaches customers in more than 70 countries. Moxa delivers lasting business value by empowering industry with reliable networks and sincere service for automation systems.

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MOXA[®]
Reliable Networks ▲ Sincere Service



Industrial IP Surveillance Solutions for Mission-Critical Applications



Industrial-Grade IP Surveillance Delivers Safety and Security

An industrial-grade IP surveillance system that can reliably transmit surveillance images in real time is essential to ensure the safety and security of applications that operate in harsh environments, particularly since many industrial applications, including oil & gas, mining, railway, border fence security, and city traffic systems, are subject to dust, rain, vibration and shocks, and very high or very low temperatures. In addition, the devices used must be immune to electromagnetic disturbances.

The Moxa IP Surveillance Difference

With a comprehensive portfolio of surveillance products that includes IP cameras, video servers, video recorders, and computers, as well as industrial I/O solutions, wired and wireless Ethernet solutions, and video management platforms, Moxa's surveillance devices excel in industrial reliability and interoperability to meet the level of mission-critical security required by industrial applications.

All of Moxa's IP surveillance solutions feature rugged industrial design, industry-proven standards, superior image quality, optimized video network performance, ONVIF compatibility, and easy third party platform integration to enable the non-stop operation of mission-critical surveillance applications, even in harsh operating environments.

Moxa's Industrial-Grade IP

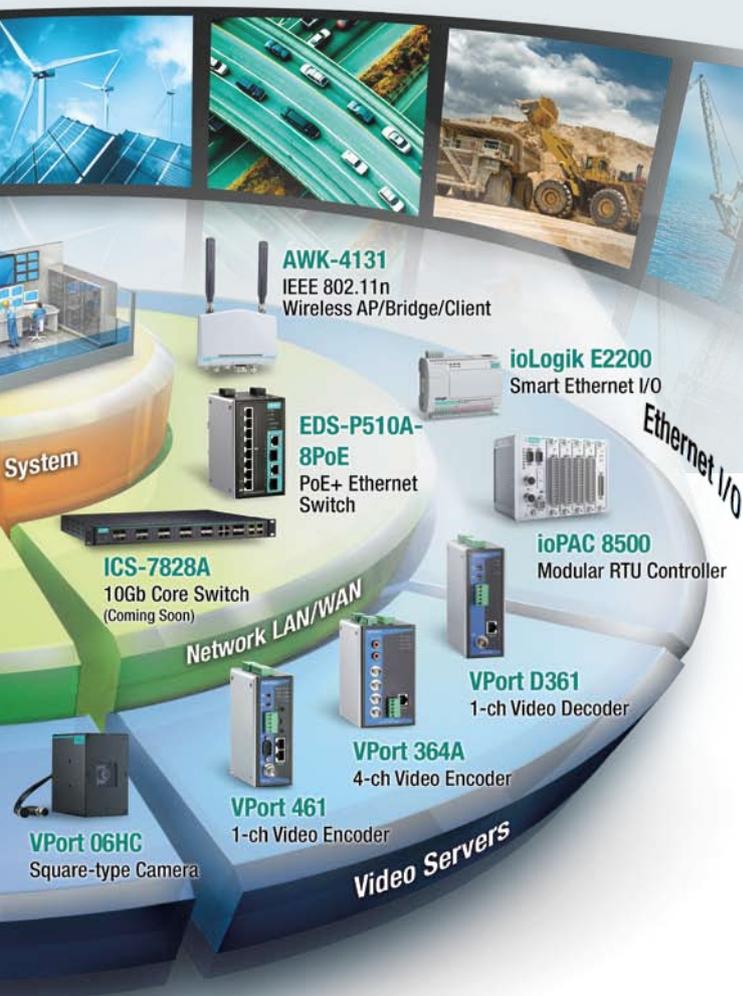


Rugged Design for Industrial Reliability

Reliability is essential for CCTV applications that must operate 24/7, and for this reason, all of Moxa's IP surveillance solutions feature rugged industrial design to increase system reliability in extreme conditions and decrease maintenance costs for system operators. Moxa's IP surveillance solutions are suitable for outdoor and harsh environments and allow users to monitor their facilities safely and securely over IP networks.

- -40 to 75°C operating temperature with fan-less design
- High Level 3 EMI/surge protection
- High MTBF
- Anti-vibration design
- Industry-proven certifications
- 3-year or 5-year warranty

Surveillance Solutions



Superior Image Quality for Demanding Requirements

Moxa's IP cameras provide best-in-class image quality with advanced image enhancement functions. With full 1080P HD resolution, Moxa's IP cameras use 3D DNR (digital noise reduction), WDR (wide dynamic range), and BLC (backlight compensation) technology to reduce noise and motion blur, overcome poor lighting conditions, and display images in a wide dynamic range of dark to light.

- DNR, WDR, and BLC for image optimization
- High quality day/night visibility
- Pre-alarm and intelligent video analysis for quick retrieval and detection

High Performance Network Computer for Video Recording

Moxa's NVR is designed for high performance security surveillance with extra reliable storage protection to meet requirements such as large scale video recording, live view, Full HD/HD, and video analytics, and to maintain reliability even in harsh environments that may be subject to frequent vibrations.

- -40 to 70°C wide operating temperature
- Anti-vibration kit for extra-reliable storage
- Better shield performance with M12 X-coded for video streaming under Gigabit Ethernet transmission
- High performance with Intel Core i7-3612QE quad-core CPU
- Preloaded 3rd-party NVR software for easy integration

Optimized Video Network Performance

High Bandwidth Video Network Convergence

HD/Full HD image quality is becoming a necessity for IP surveillance. To meet the demanding requirements of highly-dynamic HD video streaming, Moxa's layered edge-to-core network solutions ensure optimized wired and wireless bandwidth utilization to deliver real-time video for HD/Full HD surveillance systems.

- Gigabit and 10-Gigabit industrial Ethernet switches
- 802.11n/HSPA industrial wireless devices
- High power industrial PoE/PoE+ switches
- MXview for visualized industrial network management
- MXconfig mass-configuration utility for fast network deployment

Optimized Video Streaming Performance

Video streaming is a major issue for IP surveillance systems due to the fact that it affects both network and video performance. Moxa's IP video solutions feature flexible and systematic methods for optimizing video streams for high video quality and performance.

- DynaStream™: Control video frame rate for system and network efficiency
- Advanced CBR Pro™: Secure your video stream transmission to provide better image quality by eliminating dropped packets
- Multi-stream video: Multiple video streams supported for different application requirements

Easy Deployment and Integration

With ONVIF compatibility, Moxa's IP cameras offer great system flexibility and provide seamless integration for major surveillance platforms. Moxa provides NVR and VMS software (designed in-house) for video surveillance systems, and also provides a variety of software integration tools for use with third-party VMS and SCADA software.

- Complete ONVIF support for compatibility
- User-friendly VPort SDK Plus for software developers
- Coding-free integration of third-party SCADA systems

Any Environment, Any Scene, Any Application

More Secure Than Ever

Moxa's IP surveillance solutions are designed to serve a broad spectrum of industries around the world. In response to the high security standards now required for applications that operate in demanding and unpredictable environments, reliable video surveillance systems have become indispensable for mission-critical surveillance security applications.

The industrial-grade features, hazardous location certification, and optimized video network of Moxa's IP surveillance solutions ensure reliable performance and are ideal for keeping video security systems running continuously. In addition, the extended operating temperature range (-40 to 75°C) and fan-less design guarantee that our products are well suited for the types of extreme environments seen by oil & gas, traffic monitoring, mining, railway, and other outdoor applications.



Certified for Maximum Security and Reliability



Oil & Gas



Transportation



Rail (on the ground)





Rail (onboard)



Mining



Power



Environmental Management



Upgrading IP CCTV Surveillance for Metropolitan Washington, D.C.

The Metrorail in Washington, D.C., provides reliable transit service for 700,000 customers a day. The system is the second busiest in the United States, and is very efficient since it is possible to travel between any two of 86 stations with at most one transfer.

The Washington Metropolitan Area Transit Authority (WMATA) needed to upgrade each of its subway cars to IP-based video with audio surveillance. In total, 175 subway cars would need five cameras per car. The cameras must be able to operate in subzero temperatures since the cars could be stored overnight in dark cold tunnels at temperatures as low as -25°C.

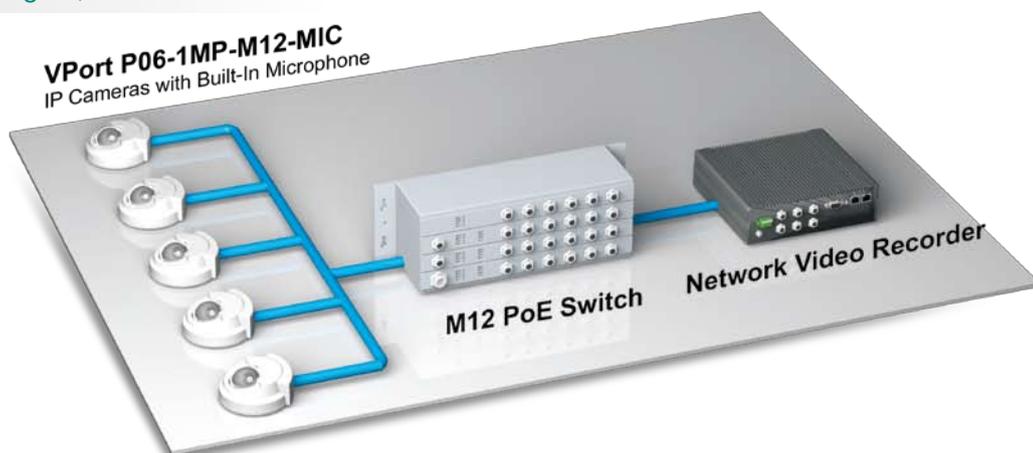
Customer Requirements

- Support operating temperatures as low as -25°C
- Integrated audio for recording
- PoE 802.3af for low power consumption and ease of installation
- Industrial design with strong manufacturer support and warranty

Business Benefits

- T1, -25 to 55°C operating temperature and built-in audio support provide reliable operation in cold, dark tunnels (T model available to support TX temperatures, -40 to 70°C)
- Camera with integrated microphone means aesthetically pleasing design with lower installation cost when compared to installing a separate microphone
- Audio and video transmission feeds are recorded into the Milestone VMS onboard video software solution
- Mega-pixel high resolution image provides outstanding image quality in the recorded image
- EN 50155 compliance
- 5-year warranty

Location: Washington, D.C.



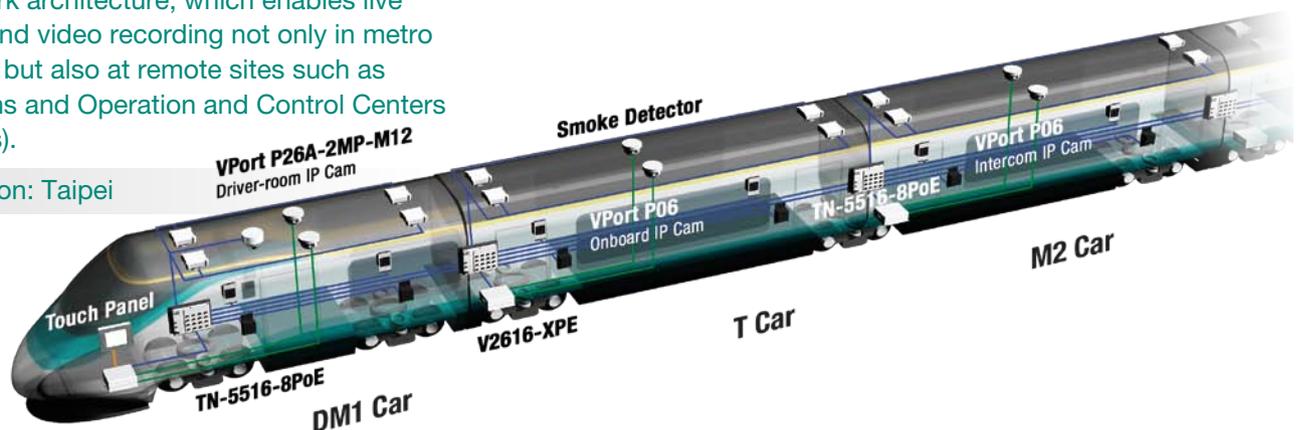
Enhancing Onboard IP CCTV Network Efficiency and Security in Taipei MRT Stations



Averaging 1.6 million passengers per day, the Taipei Metro is the busiest transportation system in Taiwan and has become an important factor in the economic status and lifestyle of Taipei. In addition, to ensure that the transportation system runs smoothly and reliably day after day, the Taipei Rapid Transit Corporation needs to pay special attention to the security and safety of their customers. For this reason, a rolling stock IP CCTV system was implemented in Taipei metro cars to record video and provide drivers with live views.

Unlike legacy analog cameras and DVR systems, the onboard CCTV system on the Nangang-Banqiao-Tucheng Line uses the newest IP CCTV system with IP cameras and network video recorders (NVRs). This system enjoys the benefits of an open network architecture, which enables live view and video recording not only in metro trains, but also at remote sites such as stations and Operation and Control Centers (OCCs).

Location: Taipei



Customer Requirements

- Complete IP CCTV system
- All onboard equipment must be compliant with IEC 60571 and IEC 62236-3-2 (EMC)
- Minimum video resolution of 1.3 megapixels
- Hardware design must be suitable for installation in a carriage environment

Business Benefits

- Wide selection of IEC 60571 compliant IP cameras, network switches, and NVR products to facilitate a reliable onboard surveillance application
- Rugged full HD IP cameras guaranteeing outstanding image quality for CCTV systems
- Fanless hardware design ensuring reliable operation on metro trains and a longer MTBF
- Successful reference sites for railway onboard communications around the world

Building Reliable Onboard IP CCTV Systems for City Trams in Hungary

Increases in population and greater emphasis on promoting tourism in cities around the world have greatly increased the importance of modern tram systems. Debrecen, Hungary, the second largest city in the country, recently initiated an aggressive public transportation improvement plan that called for 18 tram vehicles with a newly designed onboard IP CCTV system including a camera inside the car for passenger security, a camera in front of the trams for operational safety, a network video recorder for video recording, and a wireless AP for remote live view from the control center. A modern tram with a complete onboard IP CCTV system is expected to provide the city with an efficient and safe transportation system.

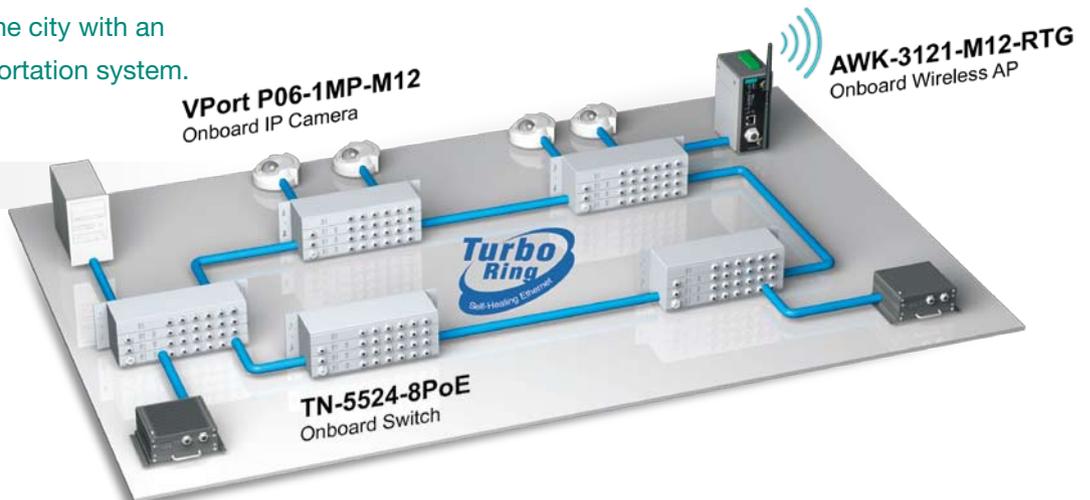
Customer Requirements

- A proven and reliable camera was needed to meet onboard conditions, including vibration, dust, and wide temperatures.
- The system needed EN 50155 compliant solutions
- Different cameras for different views on the tram
- Automatic IP address assignment and device configuration for IP devices (IP cameras, switches, intercoms, etc.)

Business Benefits

- Moxa's CCTV system is auto-configured at system boot-up, which speeds up commissioning of the system to only one day, compared to one week with the previous process
- Complete EN 50155 compliant solutions for IP cameras, switches, and wireless APs
- As a one-stop IP surveillance solution provider, Moxa guarantees proper interoperability of the various systems and can ensure that all products will be integrated properly with the customer's environment
- System issues could be handled with effectiveness and without needing to deal with scope of responsibility issues, improving project management capability

Location: Hungary



Making Railroad Crossings Safer in Australia with Smart IP Video Surveillance



High-traffic railroad crossings remain a global safety concern despite the widespread use of active warning systems to clear the tracks for oncoming trains. To ensure that railroad crossings are safe around the clock, the Australia Authority is increasingly deploying IP video surveillance technologies to make existing railroad crossings smarter and safer. Advanced IP surveillance gives railroad security personnel a big advantage, since the information they get from an onsite CCTV surveillance system allows them to quickly identify both when and where problems occur.

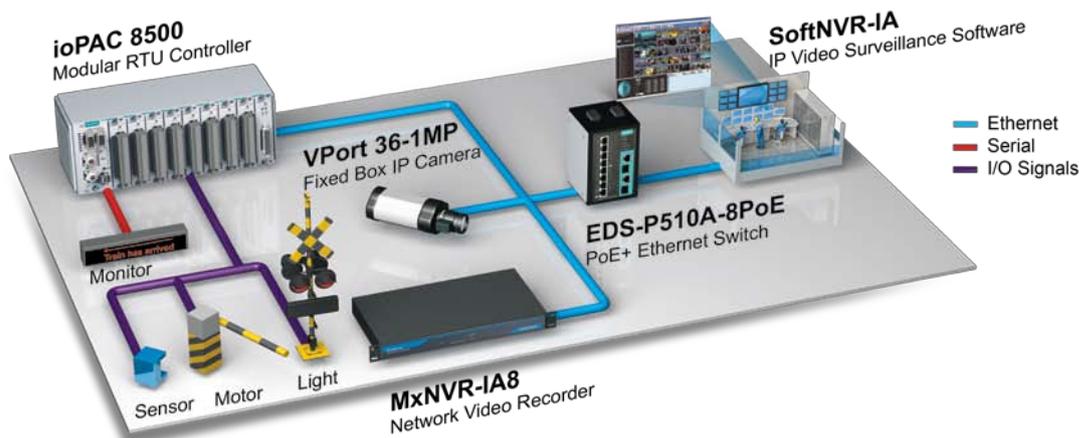
Location: Australia

Customer Requirements

- Since the CCTV camera and network video recorders are mounted outdoors, they must be tough enough to withstand dust, rain, vibration and shocks, and very high or very low temperatures. In addition, the devices must be immune to electromagnetic disturbances.
- Obstacle detection capability
- Real-time equipment/asset status
- 24/7 video surveillance and playback for viewing railroad crossing status

Business Benefits

- Rugged Design: both the VPort 36-1MP and MxNVR-IA8 have a wide operating temperature range of -40 to 75°C, without a heater or cooling fan.
- Industry Certified Reliability: the VPort 36-1MP is EN 50121, NEMA TS2, IP66-rated and has Level 3 high EMI/EMC protection to guarantee consistent performance in rainy, dusty, and high EMI environments for railway applications
- Intelligent Video Analysis (IVA) for automatic obstacle detection
- Millisecond-level timestamps for more accurate data analysis
- kHz-level analog input sampling rate for precise data acquisition
- Prerecording of analog input prevents missing data



Upgrading to an Efficient Mine CCTV System in Kelanis, Indonesia

The Kelanis mining site, located in Central Kalimantan Province, Indonesia, close to the Barito River, is one of the most important production sites for Adaro in Indonesia. Operations at the site include exploratory drilling, coal mining, stockpiling, and then transporting the coal along the river on barges. In order to achieve better control and higher security over their operation, Adaro initiated a project to install an industrial-grade, rugged IP CCTV system.

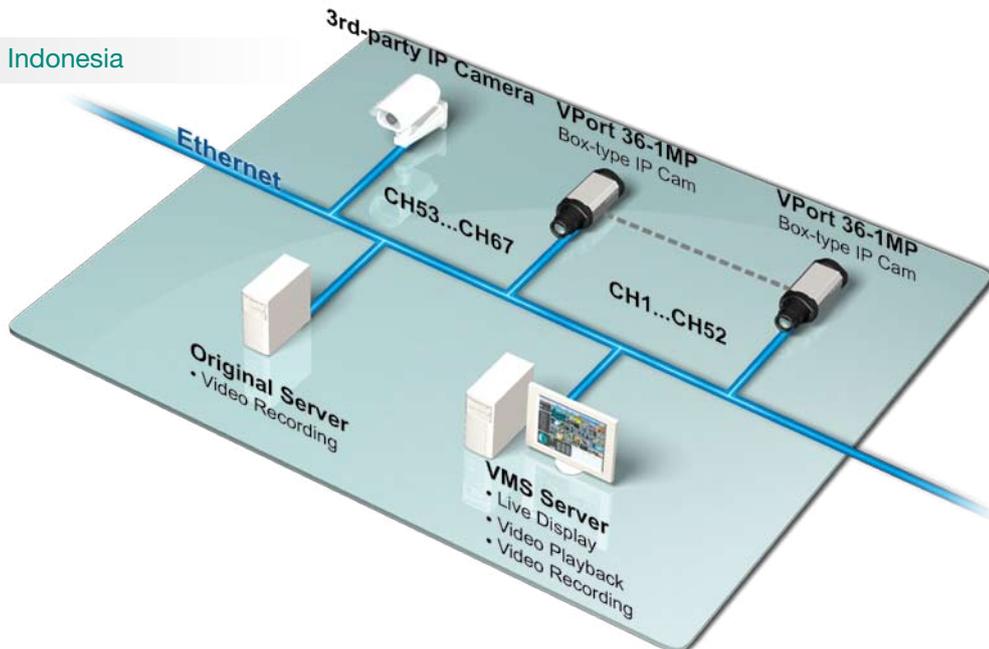
Customer Requirements

- Field site devices must be able to operate without a fan in a high temperature, dust-filled, outdoor environment
- Since the site extends over a wide area, products must have a long MTBF and rugged design to reduce the amount of maintenance effort required
- A third party VMS is required since the new installation must be compatible with the existing CCTV system

Business Benefits

- Moxa's IP cameras can function in an operating temperature range from -40 to 75°C without heater or cooling fan
- Compared to commercial IP cameras, the rugged and fanless design ensures a lower failure rate when used outdoors, and reduces maintenance costs

Location: Kelanis, Indonesia



Utilizing a Meteorological Surveillance System to Make Transportation Safer in Northern China



An important factor in the economic development of northern China is the ability to provide drivers with weather and road condition information in real time. Extreme and unpredictable weather has always been a factor in the region, making it important for drivers to be able to get real-time information about road conditions.

China's weather bureau has implemented a series of automated weather stations in its northern provinces that together form a meteorological surveillance system to provide drivers with weather and driving conditions in real time. By using the system, drivers can easily check visibility, wind, and rain conditions throughout the entire region, and whether or not roads are slippery from ice and snow. The CCTV system has been successfully implemented in both Xinjiang and Jiangsu.

Location: China

Customer Requirements

Since the individual weather stations are spread over a wide area along the border and need to be integrated with an existing system, the client wanted a solution that satisfied the following requirements:

- Products must have a rugged design and be able to work reliably under extreme weather conditions
- Physical protection requirements like corrosion resistance for outdoor environments
- Low power consumption and the ability to power on in cold conditions
- Integration of an IP-based surveillance system, 3G communication, and solar power supply

Business Benefits

- Moxa's VPort 36-1MP with IP68 housing protection and -40 to 75°C operating temperature without heater or fan offers an ideal solution for extreme weather conditions. The lack of moving parts contributes to operating reliability as well as resistance to tampering.
- Easy integration and system interoperability of IP surveillance solutions, including cameras and 3G wireless products.



Implementing Robust Gas Transit Pipeline Surveillance on the Frozen Russian Tundra

Russia is one of the largest oil producers and exporters in the world, and in recent years it has started expanding and improving its oil and gas pipeline. Major concerns include security issues and total management cost. However, the hostile climate and remote location in the largest country on earth makes the task of setting up a gas transit pipeline surveillance system much more challenging. The customer emphasized that system reliability and functionality were both absolutely essential for maintaining a system spread over such a wide area.

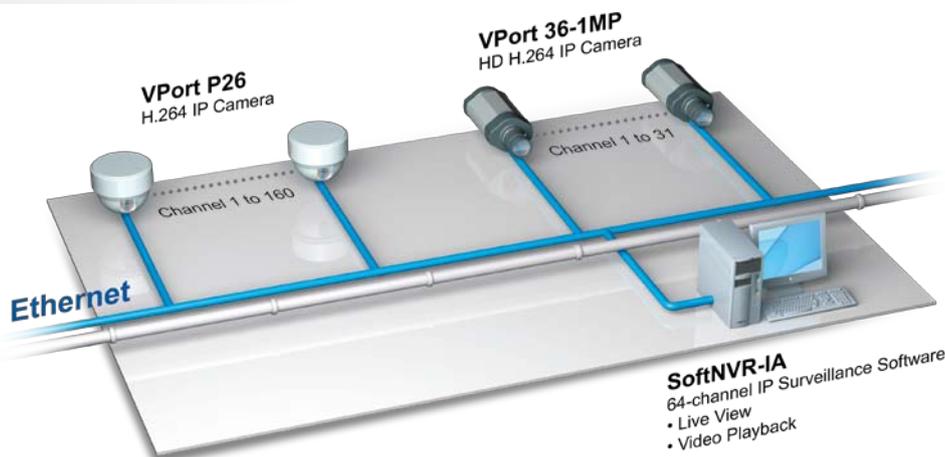
Location: Russia

Customer Requirements

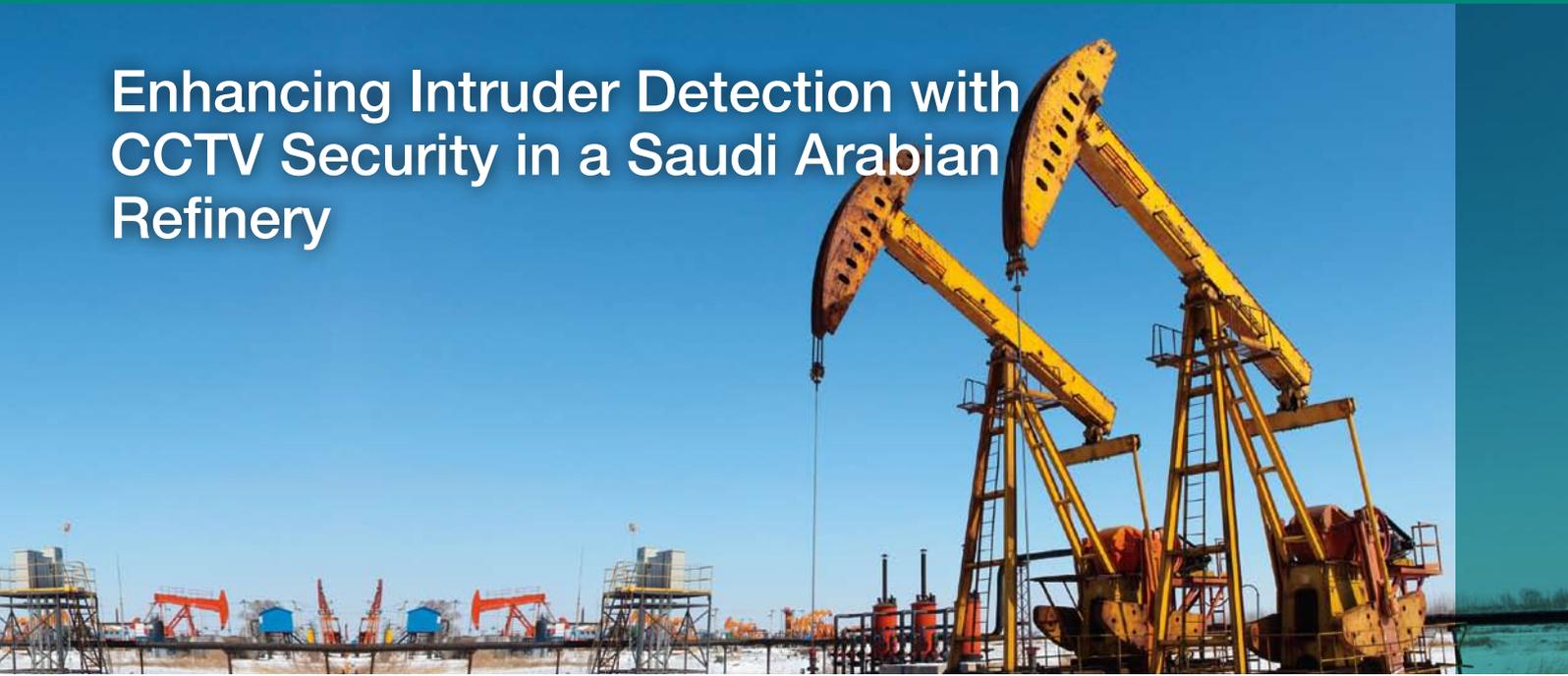
- IP cameras that work reliably in extreme freezing conditions to ensure around the clock, real-time IP video monitoring
- High MTBF to reduce downtime and maintenance costs
- Easy operation and management with event-triggered display, pre-event and live recording, and playback

Business Benefits

- Moxa's extreme weather HD IP cameras provide reliable, non-stop HD video streaming that enhances uptime continuity and productivity for maintenance applications in harsh, outdoor environments, but with less cost and effort
- Built-in digital noise reduction (DNR) and wide dynamic range (WDR) ensure clear pictures in poor lighting conditions, and day-and-night viewing
- The C1D2-certified VPort 36-1MP ensures safe operation in hazardous environments
- The fanless and heater-less design of Moxa's IP cameras eliminates interruptions due to fan or heater failures
- OPC communication enables SCADA interconnection for event-triggered IP video functionality



Enhancing Intruder Detection with CCTV Security in a Saudi Arabian Refinery



Established in 1979 to serve the Saudi domestic market, this refinery is located close to the Red Sea and is one of four refineries owned by Aramco in Saudi Arabia. Recently, the company initiated a plan to upgrade the security system at the site. The security system includes both an IDAS (Intruder Detection Alarm System) and IP CCTV system.

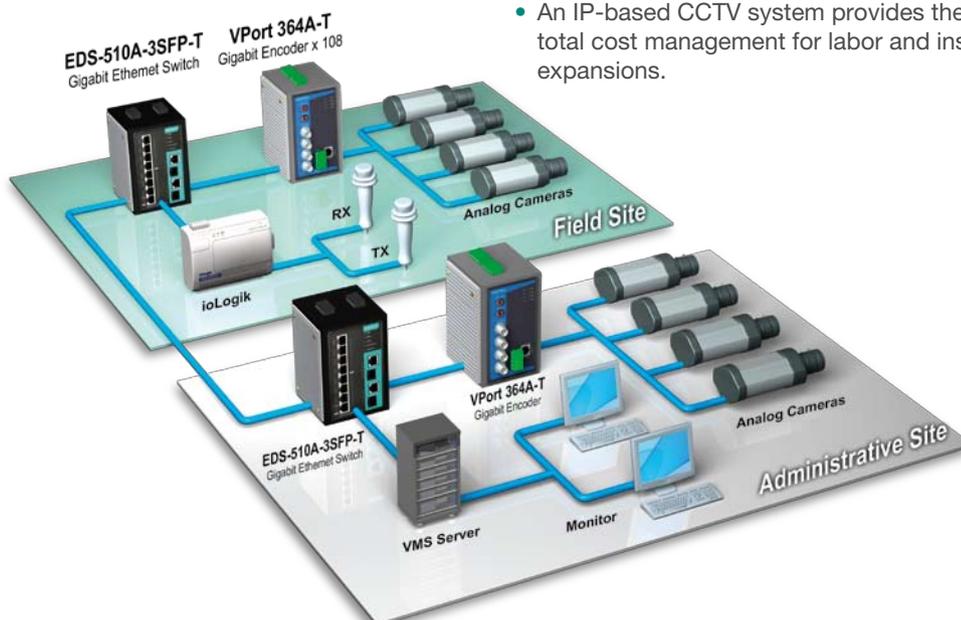
Location: Saudi Arabia

Customer Requirements

- Field site devices must be able to operate without a fan in a high temperature, dust-filled, outdoor environment.
- Since the site extends over a wide area, products must have a long MTBF and rugged design to reduce the amount of maintenance effort required.
- A third party VMS is required since the new installation must be compatible with the existing CCTV system.

Business Benefits

- Using Moxa's rugged video encoders in field site cabinets reduces installation and operational costs since air conditioning is not required.
- Devices that operate without a fan or heater have a lower failure rate, resulting in reduced labor costs and less maintenance.
- Moxa's video encoders support ONVIF, allowing users to choose which VMS (Video Management Software) they would like to use.
- An IP-based CCTV system provides the flexibility needed to guarantee total cost management for labor and installation costs for future expansions.



Building an Efficient Bus Surveillance Security System in Taichung , Taiwan



Public transportation has been an important focus for city development in recent years to improve traffic management, quality of life, and city development. Bus Rapid Transit (BRT) systems are popular thanks to their low cost, high flexibility, high efficiency, and shorter development time compared to railways or MRTs, and have already been developed in other regions of the world, including South America and China.

The city of Taichung, Taiwan has invested in six BRT lines that will operate in 20 or more sections of the city. An important part of ensuring that the BRT works reliably and efficiently is the video surveillance system, which encompasses stations, buses, and control rooms.

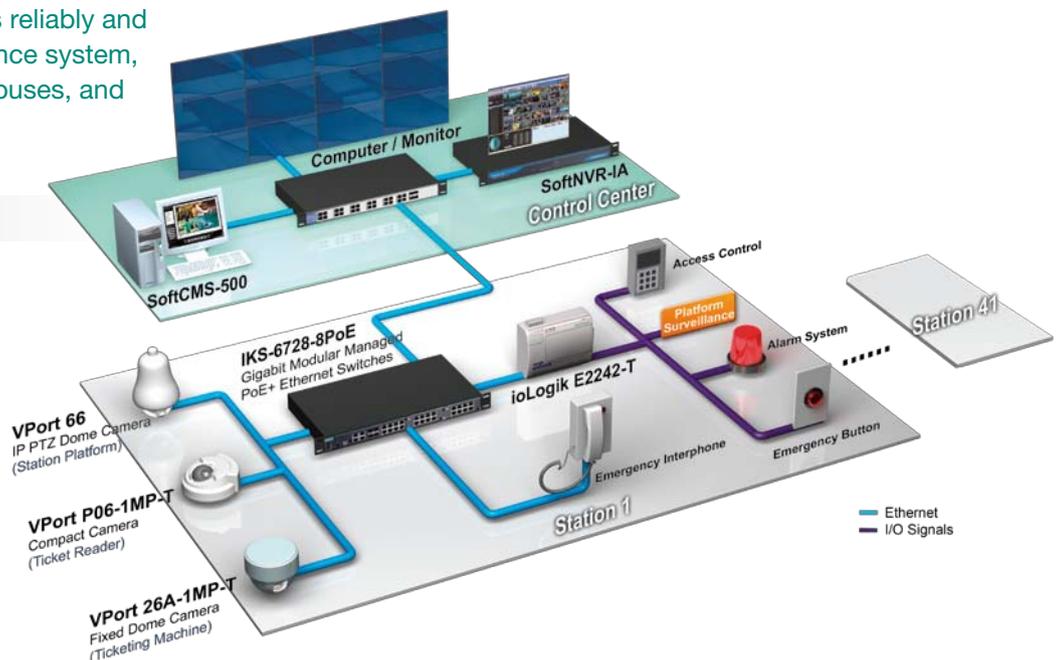
Customer Requirements

- Centralized control center to monitor all stations
- Large scale system implementation
- A variety of camera types are required for different purposes

Business Benefits

- Moxa's integrated solution, from CCTV to networking products
- Sophisticated software solutions: SoftNVR-IA for a full function NVR server, and SoftVMS for centralized video management
- Complete camera product portfolio with fixed dome, mini dome, and PTZ dome
- Fan-less design for long MTBF
- 5-year warranty for fixed cameras and 3-year warranty for PTZ cameras

Location: Taichung, Taiwan



Adding 24/7 Surveillance Security to Solar Panel Farm in Japan



Japan is the leading manufacturer of solar panels and ranks in the top five countries worldwide with the most solar PVs installed in recent years. To help preserve the environment and make renewable energy available to the public, power companies in Japan are expanding solar power and buying energy from the private sector. As a result, a large number of solar panel projects are being implemented all over Japan, making system reliability and easy maintenance absolutely essential for managing a system spread over such a wide area.

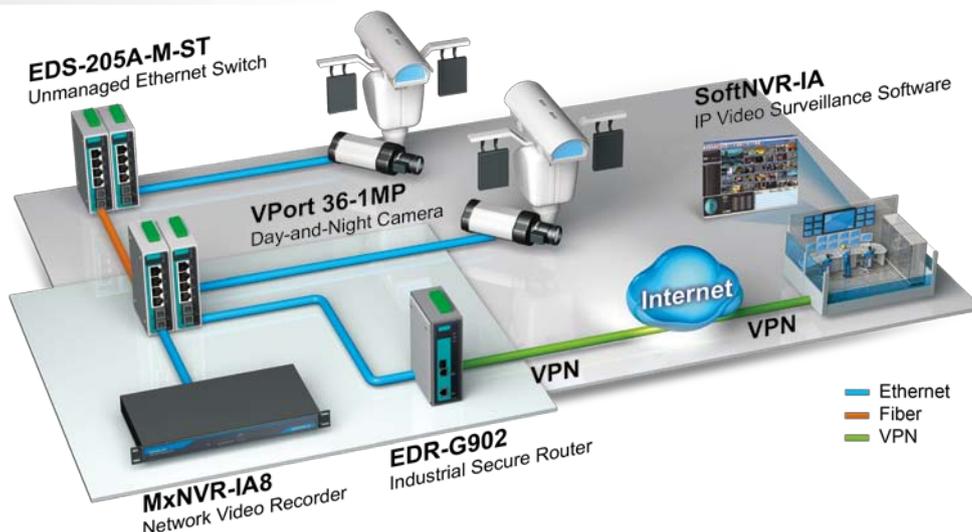
Customer Requirements

- 360° viewing angle
- Low lighting conditions at night
- Reliable operation without onsite maintenance staff
- Suitable for harsh environments in rural areas

Business Benefits

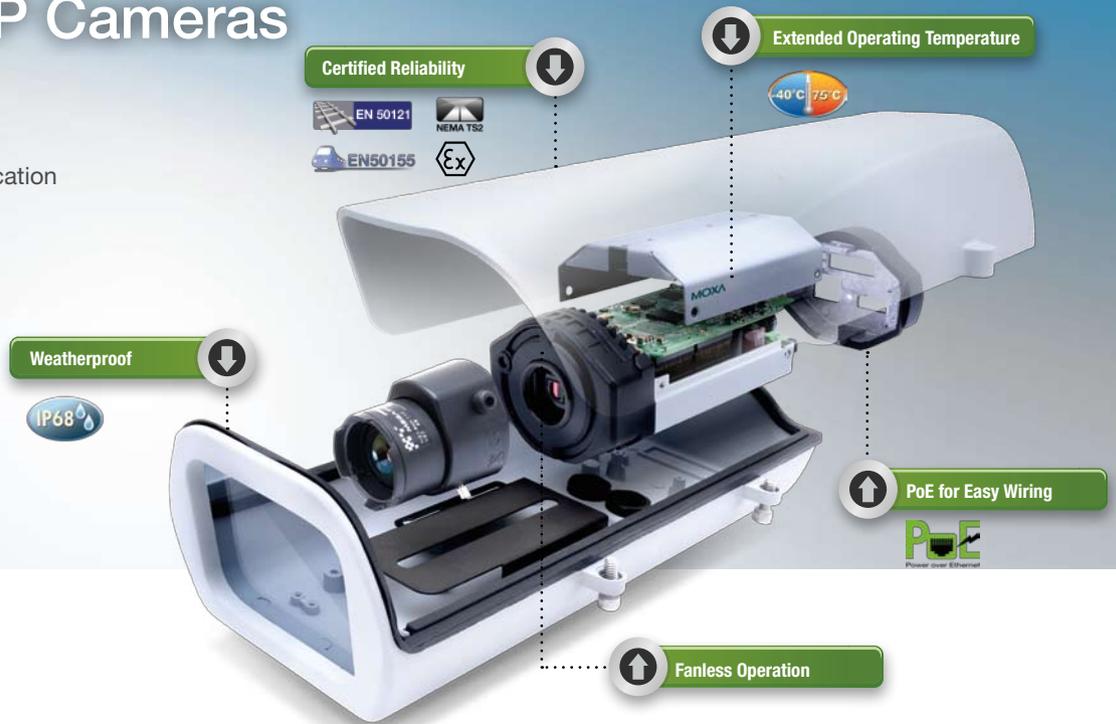
- Integrated CCTV solution from single vendor for networking and CCTV products
- Integrated infrared solution for low light conditions: PTZ solution integrated with long range IR, unlike most PTZ dome cameras with built-in IR, which can only be used for short distances
- Industrial grade NVR with high FPS for harsh environments
- Low maintenance cost
- Fan-less design for long MTBF
- 5-year warranty for NVR, camera, and infrared

Location: Japan



Unbeatable Full HD/ HD Extreme Weather IP Cameras

- Rugged Reliability
- Superior Image Quality
- Industry Proven Certification
- Extreme Integration



IP Camera



VPort 56-2MP

1080P day-and-night H.264 zoom IP camera

- -40 to 75°C operating temperature without fan or heater
- 1080P H.264 image quality
- 10x optical and 16x digital zoom
- H.264 and MJPEG triple streams up to 30 fps
- DNR/ICR/BLC for image optimization
- Optional fiber port



VPort 36-1MP

720P day-and-night box IP camera

- -40 to 75°C operating temperature without fan or heater
- HD resolution (1280 x 720) with IVA function
- DNR/BLC/WDR technologies for superior image quality
- Day-and-night viewing with built-in ICR
- Optional IP68 housing for rain/dust protection



VPort 26A-1MP

IP66 day-and-night HD fixed dome IP camera

- -40 to 75°C operating temperature without fan or heater
- 1/2.7" progressive scan CMOS camera
- Day-and-night view with built-in ICR
- High quality image with WDR and DNR
- IK10 vandal protection



VPort P16-1MP-M12

EN 50155 compliant, HD, rugged IP camera

- -40 to 70°C operating temperature without fan or heater
- HD resolution (1280 x 720) with DNR and WDR
- Day-and-night view with built-in ICR
- IK10 vandal resistant and IP66 rain and dust protection
- EN 50155 compliant





VPort 16-M12

High quality CCD image, rugged IP camera

- -25 to 55°C operating temperature without fan or heater
- SVGA (800x600) image with 3D-deinterlace
- IP66 rain and dust protection
- IK10 vandal-resistant (dome model)
- EN 50155 compliant



VPort P06-1MP-M12

EN 50155 compliant, HD video image, compact IP camera

- -40 to 70°C operating temperature without fan or heater
- HD resolution (1280 x 720) with DNR and WDR
- Compact size with a height of only 47 mm
- IP66 rain and dust protection
- EN 50155 compliant



VPort P06HC-1MP-M12

HD video image, square-type IP camera

- -25 to 55°C operating temperature without fan or heater
- HD image quality (1280 x 720)
- Flush mountable for a more discreet profile
- EN 50155 compliant
- Built-in microphone



Moxa's IP Camera Technology

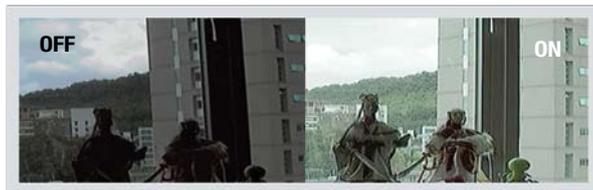
Optimal Image Quality for a Variety of Applications

Moxa's IP cameras include a versatile suite of image quality enhancement and intelligent video analysis functions to optimize image quality in many different environments.

Day & Night Visibility



High Performance WDR for Backlit Environment



Superior Image Quality with 10x Optical Zoom



3D DNR to Improve Noise Reduction



IVA Alarms for Smart Surveillance



- Detection Line
- Unattended Object



- Detection Zone
- Abandoned Object

Industrial Camera Accessory Solutions

- Wide selection of video accessories
- Industrial-proven certifications
- Indoor and outdoor options



IP Camera Lens



VP-3112MPIR

3.1-8 mm F1.2 Day & Night Lens

- Works with: VPort 36-1MP Series
- Mounting Type: CS mount
- Iris: DC Auto Iris
- Focus: Manual
- Zoom: Manual
- Dimensions: Ø37 x 48.2 x 55 mm
- Weight: 59 g

Angle of View:

Angle	D	1/2.7 type (16:9)	123.1°-48.3°
	H		105.4°-42.2°
	V		57.9°-23.8°



VP-1214MPIR

12.5-50 mm F1.4 Day & Night Lens

- Mounting Type: CS mount
- Focal Length: 12.5 to 50 mm
- Max. Aperture Ratio: 1:1.4
- Iris: DC Auto Iris
- Focus: Manual
- Zoom: Manual
- Max. Image Format: 3.2 x 5.8 mm (Ø6.6 mm)
- Dimensions: Ø46 x 59.3 x 58.4 mm

Angle of View:

Angle	D	1/2.7 type (16:9)	30.3°-7.7°
	H		26.3°-6.7°
	V		14.5°-3.8°

IP Camera Housing

Explosion Proof



VP-EX1301

- Construction: SS316L
- Dimensions: 657 x 198 x 188 mm
- Latch: Back side screw-locking
- Weight: 16,000 g
- Atex Certificate: Exd IIC T6 Gb
Ext IIIC T80°C Db

IP66 Indoor/Outdoor



VP-KV310

- Construction: Die cast aluminum alloy
- Dimensions: 460 x 184.6 x 155.4 mm
- View Window: Tempered glass
- Housing Style: Clam shell
- Latch: Dual side screw-locking
- Weight: 3,000 g

IP68 Indoor/Outdoor



VP-CI701

- Construction: Die cast aluminum alloy
- Dimensions: 406 x 109 x 145 mm
- View Window: Tempered glass
- Housing Style: Clam shell
- Latch: Dual side screw-locking
- Weight: 2,200 g

Rugged IP Camera Selection Guide



	VPort 56-2MP	VPort 36-1MP Series	VPort 26A-1MP Series	VPort P16-1MP-M12	VPort 16-M12 Series	VPort P06-1MP-M12 Series	VPort P06HC-1MP-M12 Series
Video Performance							
Max. Resolution	1920 x 1080	1280 x 800	1280 x 800	1280 x 800	800 x 600	1280 x 800	1280 x 800
Max. FPS	30	30	30	30	NTSC: 30; PAL: 25	30	30
Connections (Max.)	10 unicast 50 multicast RTSP	5 unicast 50 multicast RTSP	5 unicast 50 multicast RTSP	5 unicast 50 multicast RTSP	8 unicast 50 multicast RTSP	3 unicast 5 multicast RTSP	5 unicast 50 multicast RTSP
Video Stream							
H.264	✓	✓	✓	✓	✓	✓	✓
MJPEG	✓	✓	✓	✓	✓	✓	✓
No. of Streams	3	3	3	3	3	3	3
DynaStream™	✓	✓	✓	✓	✓	✓	✓
CBR Pro™	✓	✓	✓	✓	–	✓	✓
Image Stabilizer	✓	–	–	–	–	–	–
Camera							
Image Sensor	1/2.8" CMOS	1/2.7" CMOS	1/2.7" CMOS	1/2.7" CMOS	1/3" CCD	1/2.7" CMOS	1/2.7" CMOS
Lens (mm)	6.3 to 63mm Zoom lens	C/CS mount lenses	3 to 9mm vari-focal lens	3.6, 6.0	3.0, 3.6, 6.0, 8.0, 16	3.6, 4.2, 6.0	3.6
Day & Night	✓	✓	✓	✓	–	–	–
Minimum Illumination	–	0.2 Lux @ F1.2, color 0.05 Lux @ F1.2, B/W	0.2 Lux @ F1.2, color 0.05 Lux @ F1.2, B/W	0.2 Lux @ F1.2, color 0.05 Lux @ F1.2, B/W	0.02 Lux @ F2.0, color	0.2 Lux @ F1.2, color	0.2 Lux @ F1.2, color
White Balance	ATW/AWB	ATW/AWB	ATW/AWB	ATW/AWB	ATW/AWC	ATW/AWB	ATW/AWB
Electronic Shutter	Auto (1/50 to 1/10000)	Auto (1/30 to 1/25000 sec)	Auto (1/30 to 1/25000 sec)	Auto (1/30 to 1/25000 sec)	Auto (NTSC: 1/60 to 1/120,000 sec PAL: 1/50 to 1/120,000 sec)	Auto (1/30 to 1/25000 sec)	Auto (1/30 to 1/25000 sec)
Sense up	✓	–	–	–	✓	–	–
AGC Control	✓	✓	✓	✓	✓	✓	✓
Wide Dynamic Range	–	✓	✓	✓	–	✓	✓
Back Light Compensation	✓	–	–	–	✓	–	–
Auto Exposure	✓	✓	✓	✓	✓	✓	✓
Image Rotation (Flip, mirror, and 180° rotation)	✓	✓	✓	✓	✓	✓	✓
Digital Noise Reduction	✓	✓	✓	✓	✓	✓	✓
Network Connections							
10/100 Mbps, M12 Connector	–	–	1	1	1	1	1
10/100 Mbps, RJ45 Connector	1	1	1	–	–	–	–
100 Mbps Fiber Connector	1, single-model	–	–	–	–	–	–
Peripherals							
Audio	1 line-in, 1 line-out	–	1 line-in, 1 line-out	–	–	1 line-in or mic-in	1 mic-in
DI/ Relay	1 DI/ 1 Relay	1 DI, 1 relay	1 DI, 1 relay	–	–	–	1 DI
SD Slot	1, SDHC/SDXC	1, SDHC	1, SDHC	–	1, SDHC	–	–
Network Management and Control							
Web Browser	✓	✓	✓	✓	✓	✓	✓
SNMP Protocols	v1/v2c/v3	v1/v2c/v3	v1/v2c/v3	v1/v2c/v3	v1/v2c/v3	v1/v2c/v3	v1/v2c/v3
RTSP (Real Time Streaming Protocol)	✓	✓	✓	✓	✓	✓	✓
Multicast (IGMP)	v3	v3	v3	v3	v3	v3	v3
QoS	✓	✓	✓	✓	✓	✓	✓
Automatic Configuration	–	DHCP Opt 66/67	–	DHCP Opt 66/67	DHCP Opt 66/67	DHCP Opt 66/67	DHCP Opt 66/67
Form Factor							
Protection Rating	IP30	IP30	IP66	IP66	IP66	IP66	IP66
Surface/Ceiling Mounting	✓	✓	✓	✓	✓	✓	–
Flush Mount	–	–	–	–	–	–	✓
Outdoor Installation Accessory	✓	✓	✓	–	–	–	–
Power Requirements							
Power-over-Ethernet (PoE)	✓ (PoE+)	✓	✓	✓	✓	✓	✓
12/24 VDC, 24 VAC	✓	✓	✓	–	–	–	–
Alarms							
VMD (Video Motion Detection)	✓	✓	✓	✓	✓	✓	✓
Alarm Snapshot Image	✓	✓	✓	✓	–	–	✓
Tamper alarm	pending	✓	✓	✓	–	✓	✓
Supported Operating Temperature Ranges							
Standard Models	0 to 60°C	0 to 60°C	-40 to 50°C	-25 to 55°C	-25 to 55°C	-25 to 55°C	-25 to 55°C
Wide Temp. Models	-40 to 75°C	-40 to 75°C	-40 to 75°C	-40 to 70°C	–	-40 to 70°C	–
Regulatory Approvals							
CE/FCC	✓	✓	✓	✓	✓	✓	✓
UL 60950-1	✓	✓	✓	Pending	✓	✓	✓
EN 50155:2007	–	–	–	✓	✓	✓	✓
EN 50121-3-2	–	–	–	✓	✓	✓	✓
EN 50121-4	✓	✓	✓	–	–	–	–
NEMA TS2	✓	✓	–	–	–	–	–
Class 1 Division 2 / Atex Zone 2	pending	✓	–	–	–	–	–
EN 62262	–	–	IK10	IK10	IK10 (Dome model)	IK9	–
ONVIF	✓	✓	✓	✓	✓	✓	✓
Profiles S	✓	✓	✓	✓	–	✓	✓

Migrate Your Analog System to an IP-based Video Solution



Rugged Design

Designed for critical industrial applications, Moxa's video encoders and decoders can operate reliably in temperatures ranging from -40 to 75°C. Furthermore, the video servers come with an IP30 protected metal housing, Level 3 EMC/EMI protection, and can be mounted on a DIN rail.



Optimized Streaming

VPort video encoders support a maximum of 3 video streams with h.264 and MJPEG format. To increase network transmission efficiency, an innovative DynaStream function is provided for changing the frame rate automatically based on an event or external commands.



5-Year Warranty

To demonstrate our commitment to product reliability and providing excellent customer service, Moxa's video servers are protected by a 5-year warranty, one of the best in the industry. Moxa's video servers meet the highest standards, and are suitable for surveillance applications in harsh environments.



Video Servers



VPort 461

Excellent video performance, 1-channel H.264/MJPEG industrial video encoders

- 3 simultaneous video streams for H.264 and MJPEG
- Video latency under 200 ms
- 2 Ethernet ports for cascade and Ethernet port redundancy
- Moxa DynaStream™ function supported for network efficiency
- ONVIF supported for standardization and interoperability
- Local storage capability with SD card slot
- Industrial design with -40 to 75°C operating temperature
- VPort SDK PLUS supported



VPort 364A

Excellent video quality, 4-channel H.264/MJPEG industrial video encoders

- Dual simultaneous H.264 and MJPEG video streams
- Video latency under 200 ms
- Moxa DynaStream™ function supported for network efficiency
- ONVIF supported for standardization and interoperability
- Industrial design with -40 to 75°C operating temperature
- VPort SDK PLUS provided free



VPort D361

1-channel H.264/MJPEG industrial video decoders

- Decode H.264 and MJPEG video streams to an analog video signal automatically
- Manual selection or automatic scan with maximum of 64 video sources
- 2-way (1 in, 1 out) audio supported
- Transparent PTZ control with legacy PTZ controller
- SNMP for network management



Enjoy Flexible, Efficient, High Performance Video Management



Video Recorder and Platform

Minimize Network Bandwidth with Distributed Video Recording

Standalone MxNVR-IA8

8-channel industrial network video recorders

- Supports H.264/MJPEG/MPEG4 video recording
- Embedded Linux system for high reliability
- -40 to 75°C operating temperature
- No heater or fan for high MTBF
- Schedule and event recording



Communicate Directly with SCADA

With Modbus/TCP support for communicating with SCADA systems, the MxNVR-IA8 excels in unmanned applications. It's a simple matter to trigger the MxNVR-IA8 to start recording, and event videos can be uploaded automatically by implementing simple SCADA system commands.



Rugged Network Performance for Centralized Video Recording

V2616A

x86-based NVR Computer

- -40 to 70°C operating temperature with fan-less design
- Compliant with EN 50121-4 and essential sections of EN 50155
- IEC 61373 certified for shock and vibration resistance
- One internal and two hot-swappable storage trays for 2.5" SSDs or HDDs



MxNVR-M04

4-channel H.264/MJPEG streaming video recorder

- 4-channel, H.264/MJPEG video recording
- -40 to 75°C operating temperature
- Anti-vibration and EN 50155 compliant
- Dual video streaming
- 1 SATA slot for 2.5" HDD or SSD

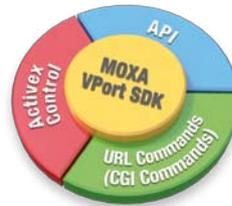


Video Management Software

SoftNVR-IA

64-channel IP video surveillance software

- Up to 64 channels
- Built-in OPC Server
- H.264/MPEG4/MJPEG viewing
- Dual monitor display



VPort SDK Plus

- User-friendly software development kits for third-party developers to customize their IP video management system
- URL (CGI) commands
- ActiveX Control SDK Plus
- API SDK Plus

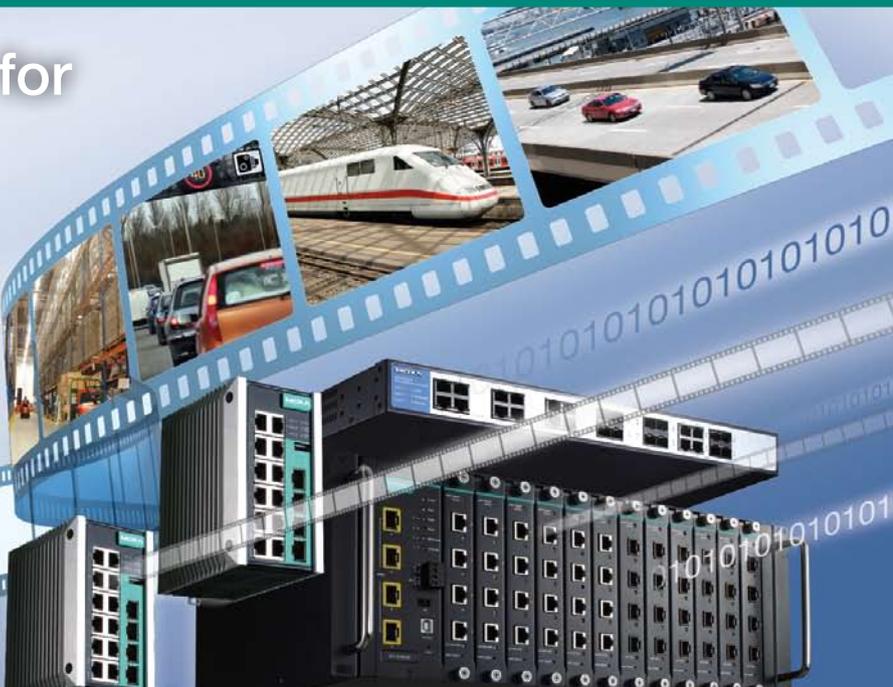
Third Party Platform Integration

With ONVIF compatibility, Moxa's IP cameras offer excellent system flexibility and provide seamless integration with major surveillance platforms, including Milestones, Genetec, and Avigilon. In virtually any application, users can quickly add Moxa's extreme weather IP cameras to existing surveillance systems.



Industrial Networks for HD Surveillance

- 1GbE/10GbE uplinks
- Millisecond-level redundancy
- Cost-effective scalability
- Industrial reliability



Industrial Ethernet Switches



ICS-G7828A

Coming Soon

10-Gigabit industrial Ethernet switches

- Layer 3 routing interconnects multiple LAN segments
- 24 Gigabit Ethernet ports plus up to 4 10G Ethernet ports
- Up to 28 optical fiber connections (SFP slots)
- Fanless, 0 to 60°C operating temperature range
- Turbo Ring, Turbo Chain, and RSTP/STP for network redundancy



Industrial Wireless Connectivity



AWK-4131

Industrial IEEE 802.11a/b/g/n wireless AP/bridge/client

- Data rate of up to 300 Mbps
- MIMO increases data throughput and range
- Millisecond-level Turbo Roaming
- -40 to 75°C operating temperature range
- One RJ45/SFP Gigabit combo port
- Outdoor IP68-rated housing



Industrial Secure Routers



EDR-G902

Industrial VPN secure routers

- Firewall/NAT/VPN/Router all-in-one
- High performance Gigabit copper/fiber combo port
- VPN security with IPSec, L2TP, and PPTP functions
- Firewall with Quick Automation Profile for fieldbus protocols



High Power PoE Switches



EDS-P510A-8PoE

Gigabit PoE+ managed Ethernet switches

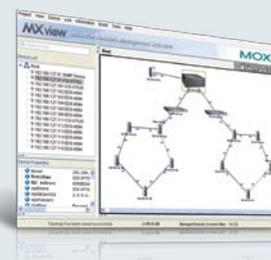
- 8 IEEE 802.3af/at PoE+ ports
- 2 Gigabit RJ45/SFP combo ports for uplink
- Up to 36 watts of output per PoE+ port
- Intelligent PoE power management
- 3 kV surge protection for harsh environments



Automation-Friendly Network Management Software

MXview, Moxa's industrial network management software, uses smart visualization features to display your network topology in real time, allowing you to diagnose the health of your network and keep your system up and running. A free trial version can be downloaded from Moxa's website.

- Easy-to-use graphical interface
- Monitors Moxa's edge-to-core devices and all connected SNMP devices
- Port-level physical wiring topology
- Integration with SCADA and other NMS



Reliable and Smart I/O Solutions

- Active SCADA communication
- Supports CGI (commands) for video surveillance
- Click&Go™ control Logic for PC-free monitoring and alarms
- Supports the SNMP protocol



Programmable RTU Controller

ioPAC 8500 Series

Modular RTU Controller

- ARM-based main and I/O dual CPU architecture
- Supports prerecording analog input and millisecond timestamp
- Support C/C++ or IEC 61131-3 programming
- Modular I/O for versatility, fallibility, and scalability



Smart Ethernet Remote I/O

ioLogik E2200 Series

Smart Ethernet remote I/O with Click&Go Logic

- Click&Go control logic for PC-free alarms and monitoring
- Active communication with patented Active OPC Server
- Smart Alarm management with email, SNMP Trap, TCP, UDP
- CGI commands for video server or surveillance software compatibility
- Optional LCM for easy configuration



Click&Go™ Control Logic

The simple yet powerful Click&Go™ enables intelligent local control through IF-THEN-ELSE rule-sets that allow Moxa's I/O and RTU products to identify user-defined events and send triggered and time-stamped exception messages through SMS, TCP, and email.



Active OPC Server

Moxa's remote I/O devices can achieve faster communication with SCADA systems. Active OPC Server offers seamless connection from ioLogik products to a number of different SCADA systems, including Wonderware, Citect, and iFix.

