

**MOBOTIX
SOLUTIONS GUIDE**



Our mission statement to go 'Beyond Human Vision' is the heart of a philosophy that recognizes that video surveillance is part of a wider potential with MOBOTIX as a foundational platform for innovative solutions to address real world challenges in manufacturing, retail, healthcare, transportation and many other areas.

Thomas Lausten, MOBOTIX CEO



PIONEERING THE VIDEO SECURITY INDUSTRY

MOBOTIX IS MORE THAN JUST ANOTHER CAMERA MANUFACTURER

We do not see ourselves as a typical camera manufacturer. In terms of IoT, our video systems are computers with lenses, working intelligently and with embedded storage capacities. MOBOTIX is distinctly characterized as a pioneering global company that develops solutions based on German engineering and processing, which is appreciated as particularly innovative and of high quality. MOBOTIX set themselves apart with their uncompromisingly reliable and intelligent solutions that can be expanded virtually without limits and which ensures long-term investment security.

The company remains true to their core values and DNA, including their proprietary software, hardware and the MxPEG+ video codec, for example. It was specially developed for security applications and has enormous advantages in times of cyber attacks and threats. We will stay true to our original DNA, while also opening up our systems for integration and increased usability. The ONVIF industry standard is included in our products and facilitates using them within third-party video management systems and integrating more easily in projects.

As a video solution provider, we are the right choice for everyone who seeks intelligent systems to enhance daily business, security and life. To deliver this promise, we provide the appropriate mix of networked hardware, software and service products.





INTEGRATED INTELLIGENCE

“WE DO NOT MAKE A CAMERA,
IT IS A COMPUTER WITH A LENS.”

MOBOTIX IP video systems have been optimized for remote applications and cloud-based technology because they can reduce video bandwidth by scaling the size and frame rate. However, image details are still available thanks to the onboard virtual PTZ functionality. The cameras store high-resolution video onboard while also delivering low-bandwidth live images and playback, on demand. Additionally, MOBOTIX cameras can manage an event-driven video ring buffer via network or Internet. The live channel and the recorded video are highly secured because the video encryption is performed inside the camera.



The microSD card fitted into every MOBOTIX camera is a backup storage device that continues to capture video recordings should the external network recording device fail (MxFFS Archive Storage). When reconnection is made, the camera will resync the recordings with the central recording device. No dedicated NVR or VMS is required to manage this fail-over process.

- DISTORTION CORRECTION IN REAL TIME IN THE CAMERA**
- ADAPTIVE BANDWIDTH MANAGEMENT**
- LIVE ANALYSIS LOCALLY IN THE CAMERA**
- EASY CONFIGURATION**
- INTUITIVE OPERATION FOR THE USER**



DECENTRALIZED CONCEPT

OUR MOST IMPORTANT UNIQUE SELLING POINT

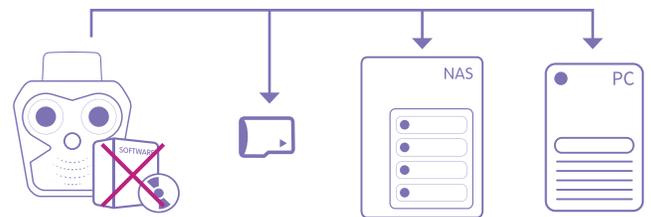
The first MOBOTIX product released was an IP camera with recording and DVR management technology built-in. It was a world-first. This decentralized approach was so revolutionary, it changed the video surveillance industry forever. Because the camera was completely self-managing, expensive central recording systems were, for the first time, no longer required.

The MOBOTIX decentralized system platform uses comparatively little computing power, even in megapixel resolutions. This makes it far more cost-effective and easier to scale in size than traditional centralized systems.

As more cameras are added to the system, you only need to add more storage. No dedicated servers or recording software licenses needed. This low-cost, low-maintenance solution saves customers both upfront and over the life of the system.

MOBOTIX cameras are 'decentralized' because they are VMS-enabled with in-camera video recording, alarm and storage management.

MOBOTIX cameras do not require licensed recording software to record, store and manage the video, as the management software is already in the cameras.



VIDEO ANALYSIS AND RECORDING IN THE CAMERA

NO COMPUTER

NO ADDITIONAL SOFTWARE

NO DIGITAL VIDEO RECORDER

NO SINGLE POINT OF FAILURE

VERY EASY TO SCALE, MAXIMUM LEVEL OF RELIABILITY



Original MOBOTIX Kamerabild

EXCELLENT IMAGE QUALITY

ONLY THE BEST COMPONENTS DELIVER THE BEST RESULTS

Great imaging starts with great technology. For many security specialists, our innovative history is legendary and the reason they continue to choose MOBOTIX. Each and every product of our flagship line is carefully constructed using the most advanced optical, electronic, manufacturing and quality assurance technologies. We use only the highest-quality CMOS sensors and develop image processing software, which enables our cameras to produce exceptionally sharp, clean images. The MOBOTIX devices are continually perfected in our laboratories in Germany.

LOW LIGHT, NO PROBLEM

The maximum resolution of the color and B&W sensors is 6 megapixels. Thanks to the latest color sensors that feature higher light sensitivity, it is often possible to use MOBOTIX day cameras with color image sensors around the clock, even under lowlight conditions.

HIGHER PERFORMANCE AND MORE INTELLIGENCE

MOBOTIX's latest decentralized IoT cameras use a powerful CPU and software platform that delivers a lot more of detailed and super sharp images per second than ever before. For example, they deliver up to 40 frames per second in full HD. This allows for even better capture of quick movements. The latest camera line is not only faster, but also has more capacity for software applications such as 3D motion analysis with MxActivitySensor 2.1 and other analytic functionalities. Regular software updates ensure that the performance of the intelligent camera system continually improves. This makes every MOBOTIX IoT video system a smart investment.



Each camera is tested at extreme temperatures before shipping.

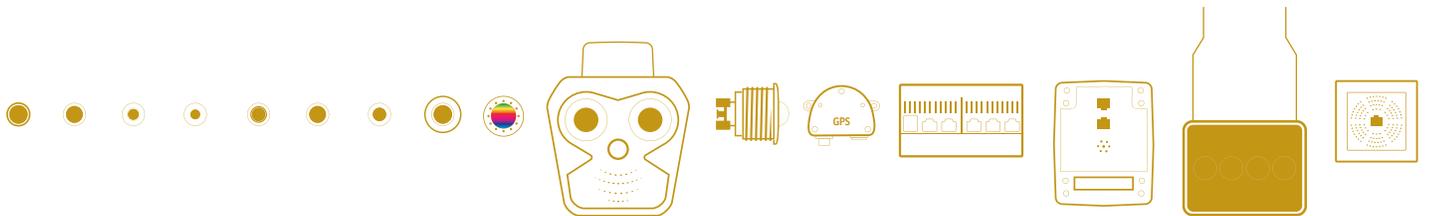
UNIQUE MODULAR SYSTEM DESIGN

M16 ALLROUND DUAL – THE UNMISTAKABLE FACE OF MOBOTIX

MOBOTIX's renowned AllroundDual camera balances flexibility and features continuing the trend of modular system design. The M16 features exchangeable image sensors for day, night and thermal use along with flash memory, microphone, speaker, PIR and optional feature modules.

Housed within a weatherproof (IP66) chassis along with a comprehensive set of built-in cyber security controls, the camera offers powerful application and integration options. The M16 also proves that standards and innovation can truly co-exist; being the MOBOTIX video surveillance device that brings together the MxPEG+ video codec, specifically developed for security applications, and the H.264 industry standard within an ONVIF-ready camera system.

The M16, as common with all MOBOTIX models, benefits from regular software updates to ensure reliability while adding additional feature enhancements that make the M16 one of the most intelligent yet flexible camera systems on the market.



UNMISTAKABLE MOBOTIX DESIGN

THE SYSTEM CAN BE EASILY (RE)CONFIGURED TO ADAPT TO ANY APPLICATION WITH TWO MIX-AND-MATCH IMAGE SENSORS

USER CAN EASILY REPLACE SENSOR MODULES

CAMERA DOES NOT NEED TO BE DISASSEMBLED



QUALITY AND RELIABILITY

THE MOST ROBUST CAMERAS IN THE INDUSTRY



A MOBOTIX camera has already established a world record being the highest webcam in the world. The scientific team Ev-K2-CNR from Bergamo, Italy has installed a standard fitted MOBOTIX camera in 2011 on nearby Kala Patthar (5,675 meters) which delivers impressive images of Mount Everest (8,848 meters).

MOBOTIX provides high-quality video surveillance systems that ensure comprehensive security in a modern, networked world. Fields of application include most demanding security areas like prisons, airports or soccer stadiums because MOBOTIX systems have no restrictions in terms of number of users or cameras. The professional VMS and video analysis are parts of the system offering and free of charge without any license fees. In addition, software updates are free via download and transform every MOBOTIX product into a future-proof solution.

LOW MAINTENANCE

Every MOBOTIX outdoor camera is a solid investment, built to withstand extreme weather conditions and temperatures for a very long time. No additional housings or climate control systems are needed for outdoor installation. The fiberglass reinforced housing protects the camera and is immune to corrosion and direct sunlight.



The low energy consumption and minimal bandwidth load of MOBOTIX cameras means that Ethernet cabling is usually all that is required to create a network and supply power.

MADE IN GERMANY

MEAN TIME BETWEEN FAILURES (MTBF): 80,000 HOURS (> 9 YEARS)



END-TO-END CYBER SECURITY

THE MOBOTIX CACTUS CONCEPT

MOBOTIX developed the unique cactus concept for a reliable and complete protection of end-to-end video security systems. Protect yourself against serious hacker attacks – with an intelligent video system that is ready to go, but can also stand up to the ever-evolving challenges of our world. This ensures, that your data stays where it is supposed to be – and nowhere else.



Stay Untouched With MOBOTIX

For an increased level of network security and a protected zone of privacy, MOBOTIX IP cameras integrate many special security technologies:

- The customer password can only be reset in the MOBOTIX factory, meaning there is no hidden back door for camera thieves and hackers.
- Extra-long passwords (up to 99 characters) with SHA-512 Hash and a display of password quality level.
- The camera web server recognizes and blocks the execution of external scripts.
- Effective protection against brute force attacks, where hackers systematically test passwords, as well as email alerts in the case of repeated login activities.
- The scanning of network addresses is prevented by individually assigning port numbers.
- Cameras allow access exclusively to defined IP addresses.
- Highly secure 128-bit data encryption on all storage units and transmission paths (MxFFS).
- Signed and tested camera firmware allows no malware.
- Access to cameras is automatically logged on the web server.
- Free of charge firmware updates ensure consistently high system protection throughout the product's entire service life.

**THE RISK OF CYBER ATTACKS IS A PROBLEM TODAY, EVEN FOR VIDEO SURVEILLANCE SYSTEMS
MOBOTIX DELIVERS A SOLUTION THAT VASTLY EXCEEDS THE INDUSTRY STANDARD
ENCRYPTED END-TO-END SECURITY CONCEPT
THE MOBOTIX SYSTEM WAS TESTED SUCCESSFULLY BY AN EXTERNAL COMPANY**



MXACTIVITYSENSOR

MOST RELIABLE VIDEO SENSOR IN MOST DIFFICULT SITUATIONS

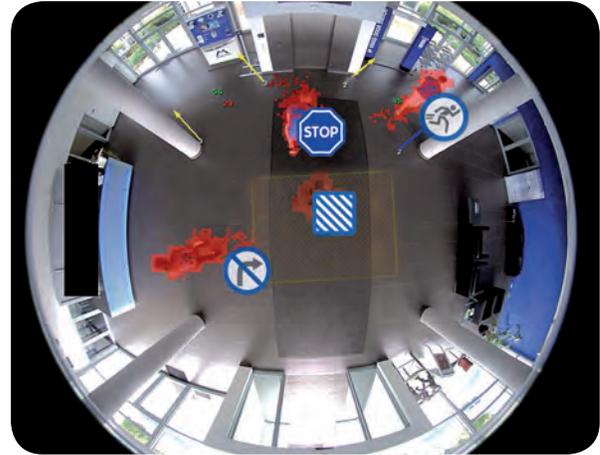
MxActivitySensor is a revolutionary MOBOTIX technology that only registers movement of people and objects, while dismissing all redundant changes in the scene, like rain, snow, clouds or trees and bushes moved by the wind. Through the development of the MxActivitySensor, MOBOTIX has re-invented video motion detection, offering a reduction in false alarms by up to 90% compared to conventional video motion detection (VMD) systems.

GAME-CHANGING TECHNOLOGY

MxActivitySensor surpasses traditional motion detection for accurately detecting general human and vehicular activity. This revolutionary technology is years ahead of other VMD systems.



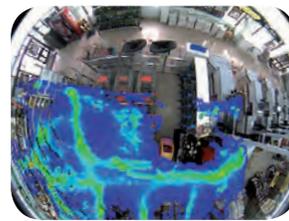
WEATHER COMPENSATION
NO EXTRA COSTS
AUTOMATIC CONFIGURATION



MXANALYTICS

VIDEO ANALYSIS AND BEHAVIORAL DETECTION

The hemispheric MOBOTIX cameras are perfectly suited to monitor stores and other retail environments. MOBOTIX included a video analysis package inside the camera to visualize activities with heat maps and to count objects in user-definable corridors with automatic reports. It also analyzes the behavior of moving objects and can generate automatic alarms if these objects, for example stop, turn or reverse direction. For video analysis, there is no workstation and no network load required because the processing is done onboard in each camera. This of course increases reliability and reduces the overall system costs.



Heat map with hot spots, object and people statistics, multiple behavioral events

No additional hardware and software required
100% license-free

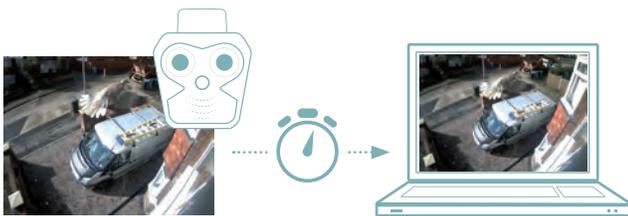


MXPEG+

THE OPTIMIZED VIDEO CODEC FOR SECURITY

MOBOTIX has developed MxPEG+ as existing video compression codecs were deemed unsuitable for video surveillance systems. MxPEG+ is the only video codec specifically designed for IP video surveillance solutions that ensures that still images are barely blurred – with crisp pictures also of moving objects.

MxPEG+ is open, freely available and integrated in all main third-party professional VMS of the market. In contrast to H.264, it also offers the shortest reaction time between scene and screen and supports video resolutions of up to 6 megapixel and higher.



Shortest reaction time from frame to frame

DESIGNED FOR VIDEO SECURITY APPLICATIONS
OPEN AND LICENSE-FREE
EVERY SINGLE FRAME IS SHARP



DUAL THERMAL

INVENTOR OF DUAL THERMAL IP CAMERAS

The dual lens thermal system also automatically supports a second optical video sensor with 6MP resolution. Together with the onboard video sensor “MxActivitySensor”, the thermal camera is the best tool to detect and report moving objects in complete darkness. The thermal camera can trigger automatic alarms and messages if the temperatures in user-defined areas differ from the default range. The thermal image can be overlaid on the visual image to localize the hot spot. Automatic temperature alarms can be generated automatically with thermal radiometry (TR), which is vital to detect potential fire or heat sources.



Combination of thermal and optical sensor, the most innovative dual camera system, embracing thermal, video and MxActivity sensor in one device to capture events in absolute darkness

UNIQUE CONCEPT WITH OPTICAL AND/OR THERMAL IMAGE SENSORS
AFFORDABLE MOBOTIX THERMAL CAMERA SYSTEM
OPTIMUM SOLUTION FOR PERIMETER AND FIRE PREVENTION, PROCESS OPTIMIZATION, MONITORING OF ELECTRIC EQUIPMENT, ETC.

MXBUS

SMART FUNCTIONAL EXTENSION SOLUTION FOR MOBOTIX IOT SYSTEMS

Originally developed for the MOBOTIX IP Video Door Station, the encrypted (128 bit) MxBus system represents the uncomplicated, easily expandable and cost-effective communication system for numerous peripherals of MOBOTIX IoT cameras. MxBus is a core component in the MOBOTIX decentralized system.

With MxBus, IO-functions for smart homes and alarm systems can be easily extended to the cameras or the IP Video Door Station. MOBOTIX offers IO, GPS, temperature and other accessories as well as radar-based proximity sensors via MxBus.

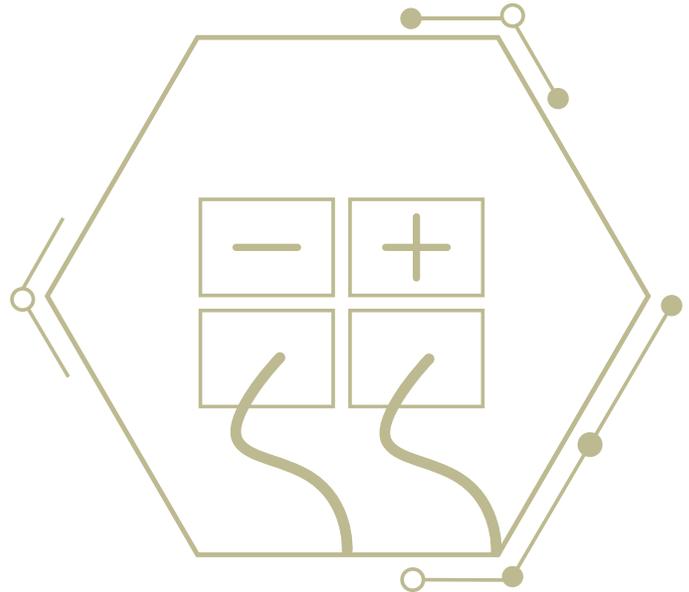
Encrypted transmission of data (9,600 baud) and power

Simultaneous supply and use of up to 7 MxBus modules on one camera

Maximum length of MxBus two-wire cable: 100 m (solid wire YSTY, core diameter 0.6 to 0.8 mm)

Configuration of MxBus modules via camera software (firmware)

MxBus comes as a standard function for all MOBOTIX IoT video systems



MOBOTIX NAS MOBOTIX STORAGE AND ONVIF-S RECORDER

Perfect device to store MOBOTIX IoT cameras, MOBOTIX MOVE cameras and ONVIF-S based IP cameras. Through our VMS (MxMC 2.0 and higher), the user can playback all recording of the MxNAS including the ONVIF-S footage. A highly efficient complete solution with secure data storage from a single source, which now allows decentralized and centralized video components to be easily combined.

- Integrated recording software supports MJPEG, H.264 and ONVIF-S compatible network cameras
- Unlimited number of recording channels for MOBOTIX IoT cameras (with MxPEG+ video codec)
- Hot swappable HDD, redundant power supply and support of external JBOD storage
- Fully supported by MOBOTIX

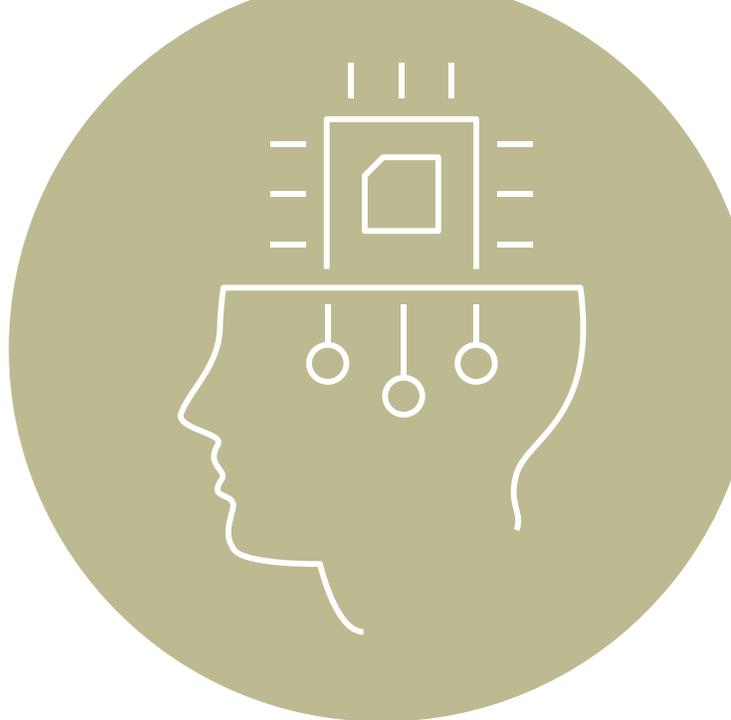
RECORDING SOFTWARE SUPPORTS MOBOTIX MOVE AND THIRD PARTY ONVIF CAMERAS

READY FOR UP TO 32 ONVIF RECORDING CHANNELS

NO LICENSE FEES REQUIRED FOR MOBOTIX IOT CAMERAS

100% FUTURE-PROOF ADDED VALUES AND ARTIFICIAL INTELLIGENCE

The decentralized intelligence in our camera system is crucial for Artificial Intelligence and makes it easier for our products to communicate with other sensors and devices in the network to help achieve solutions “Beyond Human Vision.” These solutions include reliably detecting threats by combining various sensor technologies, as well as independently initiating actions to defend against such threats. Meanwhile, the state-of-the-art data analysis function, located on the camera itself, helps users increase process efficiency and develop innovative business models. Future software updates will enable totally new functions, such as recognizing license plates, faces or voices.



EXTENSIVE WARRANTY UP TO 8 YEARS

AT MOBOTIX, WE DON'T JUST TALK
ABOUT QUALITY. WE DELIVER IT.

We have therefore extended our standard warranty to three years: The new RMA and Warranty scheme applies to all of the Mx6 camera range, MxDisplay, MxThinClient, Mx Interface Boxes and sensors, Mx2Wire+, MxSwitch, MxSplitProtect, and all of their related accessories. All products of the MOBOTIX MOVE series have a warranty of two years. Consumable parts such as batteries and MicroSD cards have a warranty of six months. For Mx6 products, a warranty extension of up to five additional years can be purchased along with the products through MOBOTIX resellers.



**STANDARD WARRANTY OF 3 YEARS, EXPANDABLE UP TO EIGHT YEARS FOR THE MOBOTIX MX6 CAMERA LINE
WARRANTY OF 2 YEARS FOR MOBOTIX MOVE CAMERAS**



FRIENDLY TO YOUR BUDGET

MOBOTIX SYSTEMS SAVE MONEY...

...because when all system costs are taken into account (purchase, installation, usage, maintenance and software), MOBOTIX systems are significantly less expensive than non-decentralized systems (save up to 70 percent with MOBOTIX).

...because they can get by with far fewer cameras than conventional systems thanks to the greater precision that comes with megapixel technology (high resolution). A double hemispheric camera such as the S14D can replace as many as eight regular cameras.

...because a MOBOTIX network camera uses less than five watts on average, and can be powered cost-effectively via PoE.

...because there are genuine “out-of-the-box” solutions. That means you can just unpack the camera, install it on the ceiling, wall or column, and connect the network cable or UMTS module; done!

...because the hardware is particularly easy to mount and highly user-friendly (low weight, only one cable for data and power, variable installation position for hemispheric models).

...because the use of standardized, network technology available worldwide with low-cost components means an existing network infrastructure can also be used with professional video security technology.

SOFTWARE UPDATES FOR NEWLY DEVELOPED FEATURES, ALSO FOR OLDER CAMERA MODELS, FREE OF CHARGE

MOBOTIX SYSTEMS OFFER ADDITIONAL INDUSTRY STANDARDS SUCH AS H.264 AND ONVIF COMPATIBILITY

USE OF STANDARDIZED AND COST-EFFECTIVE NETWORK INFRASTRUCTURE

IOT-ENABLED SINCE 1999

COMMUNICATION WITH IOT DEVICES VIA MXMESSAGESYSTEM, SIP, HTTP, ETC.



FRIENDLY TO OUR ENVIRONMENT

MOBOTIX GREEN IP VIDEO

MOBOTIX systems are just as friendly to the environment as they are to a customer's budget because they have earned the "Green IP Video" label by proving that they value certain factors:

Economical: MOBOTIX cameras are cost-effectively powered via PoE. Not only does this lower the energy costs, it also reduces the need for copper and other important raw materials because less cabling is required.

Robust: MOBOTIX cameras are extremely resistant and can operate in a temperature range from -30°C to $+60^{\circ}\text{C}$ (-22°F to $+140^{\circ}\text{F}$) without the need for energy-consuming heating or ventilation.

Resourceful: The camera's integrated high-speed processor and flash memory make energy-consuming server and storage devices and their disposal a thing of the past.

High Resolution: One hemispheric MOBOTIX camera with two image sensors replaces up to eight conventional cameras, including their energy and resource consumption.

Long-Lasting: The lack of mechanical moving parts means that MOBOTIX cameras require practically no maintenance and are still completely operational after many years of use, making them more sustainable than other systems.

Forward-Looking: Even older cameras have access to newly-developed functions with a simple software update. Remote updates via the Internet and maintenance-free cameras reduce the number of journeys that have to be made and the harmful emissions that come with this.

POWER SUPPLY VIA POE (APPROX. 5 WATTS/CAMERA ONLY)

NO ADDITIONAL SERVER OR STORAGE DEVICES REQUIRED

A HEMISPHERIC DUAL CAMERA WITH TWO IMAGE SENSORS REPLACES UP TO EIGHT CONVENTIONAL CAMERAS



KONICA MINOLTA

KONICA MINOLTA BUSINESS SOLUTIONS U.S.A., INC.
100 Williams Drive, Ramsey, New Jersey 07446

CountOnKonicaMinolta.com



MERIDIAN IMAGING SOLUTIONS
5775 General Washington Drive, Alexandria, Virginia 22312

www.WhyMeridian.com / 888-289-2776