

# Axis IP-Surveillance.

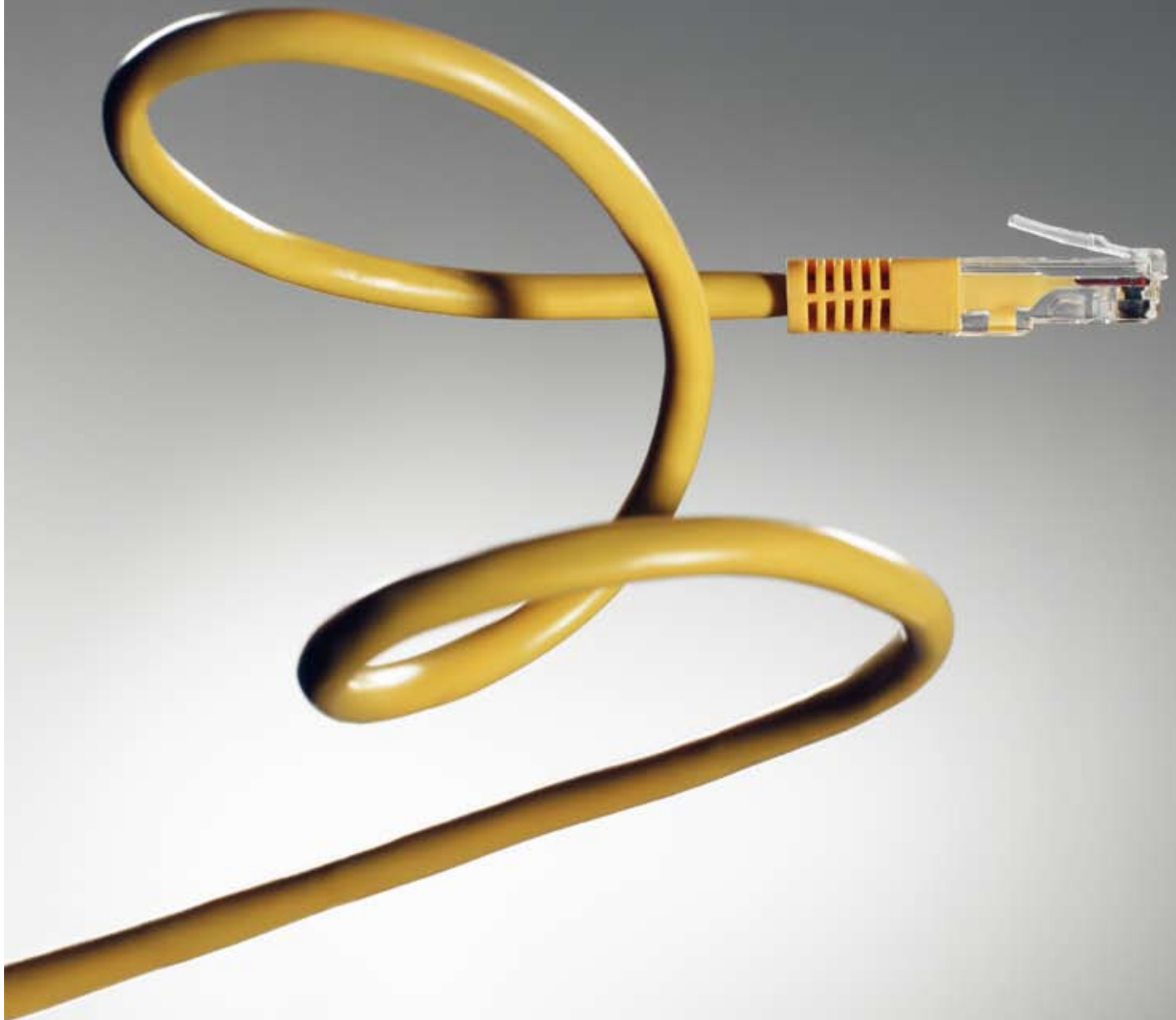
Endless possibilities for video surveillance.



# Meeting today's video surveillance challenges

The video surveillance market is booming, driven by increased public and private security concerns, as well as a technology shift. The transition to network video is a reality as customers take advantage of flexible, industry standard systems for security and video surveillance. As security management

over the IP network expands and intelligence capabilities move out to network cameras, systems can scale much more easily. This move to open systems empowers a much more productive and cost-effective means of surveillance than was ever possible.





For the security manager, the shift to network video creates new opportunities where digital technology can be put to use to deliver maximum value.

### **Superior image quality**

Image quality is clearly one of the most important features of any camera, if not the most important. Superior image quality enables the user to more closely follow details and changes in images, making for better and faster decisions to more effectively safeguard people and property. It also ensures greater accuracy for automated analysis and alarm tools. Axis network cameras provide high-quality video images, and megapixel network cameras are available to provide even more image details.

### **Remote accessibility**

With network video, users can access real-time video at any time from any authorized computer anywhere. Axis network video products provide an easy way to capture and distribute high quality video over any kind of IP network or the Internet. The video can be stored at remote locations for convenience and security, and the information can be transported over the LAN or Internet.

### **Easy, future-proof integration**

There are almost no limitations as to where a network video product can be placed. Axis network video has the capacity to provide a high level of integration with other equipment and functions, making it a continually developing system. A fully integrated Axis network video system can be used for a multitude of applications simultaneously: for instance, access control, building management, point-of-sales systems, ATMs, as well as fire, intruder and visitor management.

### **Scalability and flexibility**

An Axis network video system can be expanded by adding more network cameras. You can choose exactly what you need today, and scale the system at any time to meet your growing needs. New technologies, additional cameras, and extra storage capacity can all be easily added as required, thanks to strict adherence to industry standards.

### **Cost-effectiveness**

Based on open standards, Axis network video products run on IP networks. Using standard PC server hardware rather than proprietary equipment such as DVRs radically reduces management and equipment costs, particularly for larger systems where storage and servers are a significant portion of the total solution cost. Additional cost savings come from the infrastructure used. IP-based networks such as LANs and the Internet can be leveraged for other applications across the organization.

### **Distributed intelligence**

These days, a massive amount video is being recorded, but never watched or reviewed due to lack of time. As a result, events and activities are missed, and suspicious behaviors remain unnoticed. With network video, intelligence has been brought into the camera itself. Network cameras can have built-in video motion detection and alarm management so the camera decides when to send video, at what frame rate and resolution, and when to alert a specific operator. Other unique features include audio detection and active tampering alarm.

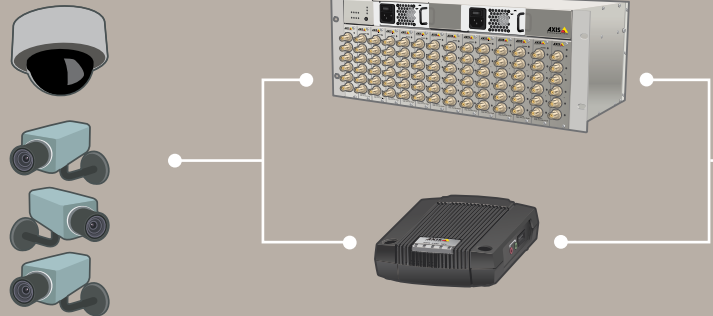
# The IP Way: How it works

## Protecting existing CCTV investments

Significant investments in analog CCTV systems may have already been made. The technology shift to network video does not, however, mean that existing analog CCTV investments have to be discarded. With an Axis network video solution, you can integrate your existing analog system into an IP-based solution. The solution enables you to take advantage of numerous functionalities such as remote pan/tilt/zoom, Power over Ethernet, audio, video motion detection, while meeting user requirements for image quality, recording capabilities, reliability, and cost-effectiveness.

## Leveraging IT investments and achieving a lower total cost of ownership

The majority of businesses now have high-speed, IP-based networks connected to the Internet. Adding an Axis network video system simply utilizes and extends the same infrastructure to include video functionality. Standard IT equipment such as switches, PC servers for video recording and storage, are used, so existing investments in IT infrastructure and devices can be leveraged, ensuring high return on investment.



Analog cameras

## Axis video encoders and rack solutions

Axis video encoders make it possible to move toward a network video system without having to discard existing analog equipment. They connect to analog cameras, digitize the images and send them over an IP network, allowing analog cameras to take advantage of many of the same benefits as provided by network cameras.

## A more secure system

Network video offers more ways to secure access to video than can be provided by an analog CCTV system. Passwords can be used to limit access, and video can be encrypted before being sent over the network to make sure it cannot be viewed or tampered with. The system can also be set up to authenticate the connection using encrypted certificates that only accept a specific network video device, thus eliminating the possibility of anyone hacking into the system.





An Axis network video system is able to send video without the need for a dedicated physical infrastructure. It uses standard IP networks, such as Local Area Networks (LANs) and the Internet, for transporting information, rather than dedicated point-to-point cabling, such as that used in analog video systems.

IP NETWORK



INTERNET



### Axis network cameras

Connecting directly to the IP network, they capture and send live video directly over the IP network.

### Video management and storage

A standard PC with video management software can be used to monitor and record the video.

### Remote access

Any camera can be monitored remotely from anywhere on the LAN or the Internet.

### Axis video decoder

If network video streams need to be monitored on existing analog equipment, an Axis video decoder can be used.



## Easy and cost-effective expansion

A network video system is extremely flexible. Cameras can be moved freely around the network, and the system can be expanded by adding more network cameras. This is easily done regardless of whether the new cameras are to be placed at the same site, or at a new location communicating over the Internet.



## Making the most out of your system

With Axis network video solutions, you can take advantage of advanced features that will further enhance your application.

### **Progressive scan: Depicting moving objects clearly**

Many network cameras employ progressive scan technology that better depicts moving objects clearly. This advanced image capture technology means that the whole image is captured at one time, thus providing crystal clear images even with a high degree of motion.

### **Power over Ethernet: Increasing savings and reliability**

Not available for analog cameras, Power over Ethernet (PoE, IEEE 802.3af standard) means that the cameras get power from a PoE-enabled switch or midspan over the same standard cable that transmits video. PoE provides multiple benefits, including reduced installation costs and flexibility in camera placement. In addition, cameras can get centralized backup power from the server room, so in the event of a power failure they will continue to operate.

### **Megapixel resolution: See what you've been missing**

A megapixel network camera provides more detail or can cover larger areas. In addition to the advantage of depicting more detail with greater pixel density, it can be used to digitally pan, tilt and zoom, and to create multi-view video.

### **Wireless networking: For full installation flexibility**

Sometimes wireless solutions are the best and most cost-effective option for video surveillance installations. For example, it is useful in historic buildings, where the installation of cables would damage the interior, or within facilities where there is a need to move cameras to new locations on a regular basis. The technology can also be used to bridge sites without expensive ground cabling.

### **Video compression formats: H.264, MPEG-4 and Motion JPEG**

Video compression formats can be a determining factor for a video surveillance application. Many Axis network video products feature advanced real-time video encoding that can deliver Motion JPEG, MPEG-4 as well as H.264 video streams. This gives the flexibility to maximize image quality for recording while reducing bandwidth and storage needs.

### **Intelligent video: Scalable intelligence at the edge**

Intelligent video makes video more manageable for systems and persons. Applications range from analytics such as video motion detection and audio detection, to more advanced systems including camera tampering detection, people counting, virtual fences, and vehicle license plate recognition. Building this sort of analytics into edge devices such as network cameras has major advantages. An intelligent network camera is never idle and supports the operator 24 hours a day, seven days a week. It is constantly on guard, waiting for an impulse to start recording or sending an alarm to the operator.



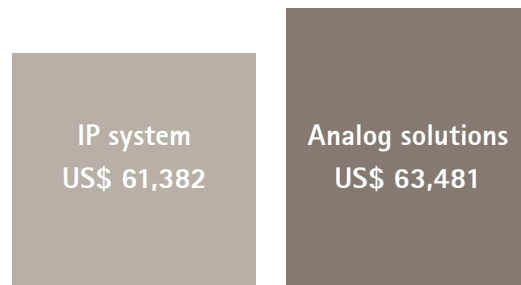
## Total cost of ownership at a glance

All the advanced features offered by network video come at a cost. The initial price for a network camera can be higher than an analog camera, if one compares only the camera. But comparing the cost per video channel, the Axis network video system, with all its superior flexibility and performance, quickly becomes comparable with an analog system anchored by a DVR. In many system configurations, the upfront cost for a surveillance system based on network video products is lower.

According to independent research on the differences between analog and digital solutions, installation, configuration and training costs for analog systems are almost 50% more than for IP systems. For example, cabling is almost three times as expensive in analog systems compared with IP-based systems. The primary reason is that coaxial cabling is more expensive than Ethernet cabling. Also, analog typically requires separate power cabling, while Power over Ethernet eliminates the need for electrical connections in the IP system, and separate cabling is also needed to control analog PTZ cameras. A network video system allows users to incorporate open PC systems and open storage with video management software, which costs 20% less than DVRs.

- > If an IP infrastructure is installed, the network video system is always lower in cost.
- > Network video systems of 40 cameras or more have a lower total cost of ownership than analog-based systems.
- > 32 cameras is the break-even point for IP systems vs. analog. Beyond 32 cameras, the network video system in common scenarios has a lower cost, and between 16 and 32, the cost is quite similar or may be slightly lower for analog systems.
- > Network video products have other benefits that cannot be quantified: scalability, easier integration with other systems, superior image quality, better maintenance and service, easier troubleshooting, and many more.

To read the full study, please visit:  
[www.axis.com/corporate/corp/papers/tco.htm](http://www.axis.com/corporate/corp/papers/tco.htm)



The total cost for network video systems with existing infrastructure vs. analog solutions will range from 35% lower for systems with up to four cameras to an average of 15% less for systems with more than 60 cameras. In cases where there is no existing IP infrastructure, analog solutions have a 5%-10% price advantage for systems up to 32 cameras vs. IP. But beyond 32 cameras, the price advantage for network video systems averages 5%.

### Why Axis

- > Worldwide #1 in network video, the world's leading expert
- > Proven installations across all continents
- > Broadest product portfolio in the industry
- > Broadest network of security and IT partners
- > Over 20 years of networking excellence

## About Axis Communications

Axis is an IT company offering network video solutions for professional installations. The company is the global market leader in network video, driving the ongoing shift from analog to digital video surveillance. Axis products and solutions focus on security surveillance and remote monitoring, and are based on innovative, open technology platforms.

Axis is a Swedish-based company, operating worldwide with offices in more than 20 countries and cooperating with partners in more than 70 countries. Founded in 1984, Axis is listed on the OMX Nordic Exchange under the ticker AXIS. For more information about Axis, please visit our website at [www.axis.com](http://www.axis.com)