



Video Surveillance

Portfolio Overview



Answers for infrastructure

SIEMENS



A broad range of solutions to meet all needs

Video surveillance provides full visual control over a facility around the clock. With the help of digital storage you can identify people and provide evidence that a series of events has occurred. Video surveillance improves security and safety, and is used today in sectors ranging from retail to industrial complexes and other types of buildings.

Siemens Security Products provides a complete range of video surveillance products and systems. This includes IP and analogue cameras, lenses, digital video recorders (DVRs), monitors and much more.

System design tips

The purpose of video surveillance is to discourage criminals, but if a crime does take place it also makes it possible to establish the course of events and identify the people and objects involved. To optimize the use of a video surveillance system the following criteria should be met:

- There should be two types of cameras: wide-angle "overview" cameras and close-up cameras.

- The number of wide-angle cameras and their placement should be sufficient to cover all the points of interest in the monitored area(s) with good image quality.

- There should be close-up cameras whose placement and type should be such that they can provide detail-rich images with the right proportions. It is preferable that these images show both the whole body of the person(s) in the shot,

and closer head-and-shoulders shots as well. Appropriate places for close-up cameras would be at the cash register and the entrance, for example.

- There should be enough light.

- There should be a set schedule and routines for regular system evaluations.

- There should be a documented action plan for what should be done if there is suspicion of criminal activity.

- Staff should be trained to operate the system correctly and given the opportunity to keep their knowledge up to date.

- Recordings that show criminal activity must be handled in such a way that the original images can be handed over to the justice system in a manner that is in accordance with the law.

Portfolio highlights

- IP and analogue cameras
- Day-night cameras
- Dome cameras
- SISTORE AX digital video recorders
- SISTORE MX digital video recorders
- SISTORE MX NVS
- Lenses, monitors and power supplies
- Housings, mounts and other accessories



Analogue cameras

■ The CCD-chip technology used in Siemens analogue cameras makes it possible to provide high resolution and sharp colour images provided that the light conditions are good.



Model number	CCBC1345-LP	CCBC1345-MP
Article number	2GF1183-8GA	2GF1183-8GB
CCD chip	1/3"	1/3"
Resolution	480 TVL	480 TVL
Back-light compensation (BLC)	on/off	on/off
Dip switch setting	Yes	Yes
Light sensitivity	0.6 lux	0.6 lux
Operating voltage	12VDC/24VAC	230V AC
Current consumption	4W	4W

Day-night cameras

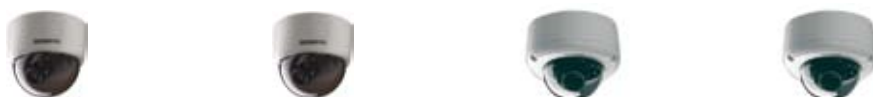
■ All of Siemens' day-night cameras build on the latest CCD chip technology and deliver clear images around the clock. To take full advantage of the day-night technology we recommend the use of some form of infrared (IR) lighting that switches on automatically at the same time that the camera switches over to night mode. The integrated IR filter should also be disabled at this time.



Model number	CCBS1337-LP	CCBS1337-MP
Article number	2GF1118-8FA	2GF1118-8FB
CCD chip	1/3"	1/3"
Resolution	540 TVL	540 TVL
Back-light compensation (BLC)	6 zones	6 zones
On Screen Display (OSD)	Yes	Yes
Light sensitivity	0.4/0.08 Lux	0.4/0.08 Lux
Operating voltage	12VDC/24VAC	230V AC
Current consumption	4W	4.5W

Dome cameras for indoor use

■ This attractive series includes different models for discrete surveillance of indoor environments. Choose between colour monofocal domes, colour varifocal domes, or day-night varifocal domes. These camera types are ideal for surveillance in shops, restaurants and hotels, for example. A stylish one-channel video server that transforms an analogue camera to an IP camera is available as an accessory.



Model number	CFVC1317-LP	CFVS1317-LP	CVVC1317-LP	CVVS1317-LP
Article number	S54561-C61-A1	S54561-C62-A1	S54561-C63-A1	S54561-C64-A1
CCD chip	1/3"	1/3"	1/3"	1/3"
Resolution	540 TVL	540 TVL	540 TVL	540 TVL
Lens	3.7-12 mm	3.7-12 mm	3.7-12mm	3.7-12mm
Day-night	No	Yes	No	Yes
Back-light compensation (BLC)	6 zones	6 zones	on/off	on/off
Vandal resistant	No	No	Yes	Yes
Dome colour	Toned	Toned	Toned	Toned
Light sensitivity	0.46 lux	0.53/0.43 Lux	0.46 lux	0.53/0.43 Lux
Operating voltage	12VDC/24VAC	12VDC/24VAC	12VDC/24VAC	12VDC/24VAC
Current consumption	3.5W	3.5W	3.5W	3.5W
IP rating	-	-	IP66	IP66

High-speed varifocal dome cameras

■ Siemens high-speed dome cameras are available in a variety of formats: one colour model and three day-night models with exceptional functionality in challenging light conditions. Mechanical IR filters make it possible for day-night cameras to produce clear monochrome images. A wide range of mounting accessories is available, including outdoor, indoor or vandal-resistant camera housings.



Model number	CCDA1445-ST18	CCDA1445-DN18	CCDA1445-DN26	CCDA1445-DN36
Article number	S54561-C10-A1	S54561-C11-A1	S54561-C12-A1	S54561-C13-A1
CCD chip	1/4"	1/4"	1/4"	1/4"
Resolution	625 TVL	625 TVL	625 TVL	625 TVL
On Screen Display (OSD)	Yes	Yes	Yes	Yes
Integrated lens	4.1-73.8mm	4.1-73.8mm	3.5-91.0mm	3.4-122.4mm
Zoom	18x	18x	26x	36x
Light sensitivity	1.0Lux	0.7Lux	1.0Lux	1.4Lux
Operating voltage	24VAC	24VAC	24VAC	24VAC
Current consumption	20VA	20VA	20VA	20VA

IP cameras

■ IP cameras make it possible to transmit images via an IP network. The video streams can then be recorded via SISTORE MX or SISTORE MX NVS.



Model number	CCIC1410-L	CCIC1410-LA	CCIC1410-LAW
Article number	S54561-C90-A1	S54561-C90-A2	S54561-C90-A3
Specification	VGA	VGA Audio	VGA Audio /WLAN
CCD chip	1/4"CMOS	1/4"CMOS	1/4"CMOS
Compression	MJPEG/MPEG4	MJPEG/MPEG4	MJPEG/MPEG4
Pixel resolution	640x480	640x480	640x480
Light sensitivity	0.4Lux	0.4Lux	0.4Lux
Current consumption	5V DC	5V DC	5V DC



Model number	CCMC1315	CCMS1315	CFMC1315	CCID1410-ST
Article number	S54561-C80-A1	S54561-C80-A2	S54561-C81-A1	S54561-C82-A1
CCD chip	1/3"	1/3"	1/3"	1/4"CMOS
Compression	MJPEG/MPEG-4	MJPEG/MPEG-4	MJPEG/MPEG-4	MJPEG/MPEG4
Pixel resolution	1280x960/640x480	1280x960/640x480	1280x960/640x480	640x480
Day-night	-	Yes	Yes	-
Back-light compensation (BLC)	on/off	on/off	on/off	-
Light sensitivity	0.4 lux	0.4/0.1 lux	0.4/0.1 lux	0.7Lux
Current consumption	24VAC / POE	24VAC / POE	24VAC / POE	24VAC / POE

Lighting

■ Poor lighting is one of the most common causes of poor image quality. For best results it is necessary that the lighting be strong enough and balanced in each camera's range of view. There should be light shining on the object rather than light shining directly into the lens. Uneven lighting can be caused by a number of factors such as the use of spotlights, too much sunlight, light that is reflecting off shiny objects, or by there simply not being enough light at all. Strong light coming toward the lens causes high contrasts. This can result in a person's face being hidden in shadows, which can make identification difficult or even impos-

sible. Uneven lighting can also make it difficult to tell if a small change in the frame reflects a real change in the environment or if it is just the result of the lighting. To avoid these problems it is important to use the right camera and the right lighting. These two parameters depend upon each other. When installing a camera, select dynamic scope so that the camera is adjusted to suit the light dynamics in the area it will monitor. Keep in mind that refurbishing or renovating the area could negatively impact on the light dynamics and thereby affect the camera's performance.

■ Indoor lighting

Traditional indoor lighting is provided by light bulbs, fluorescent lamps or halogen lamps. All of these light sources work well together with the camera sensor's light spectrum.

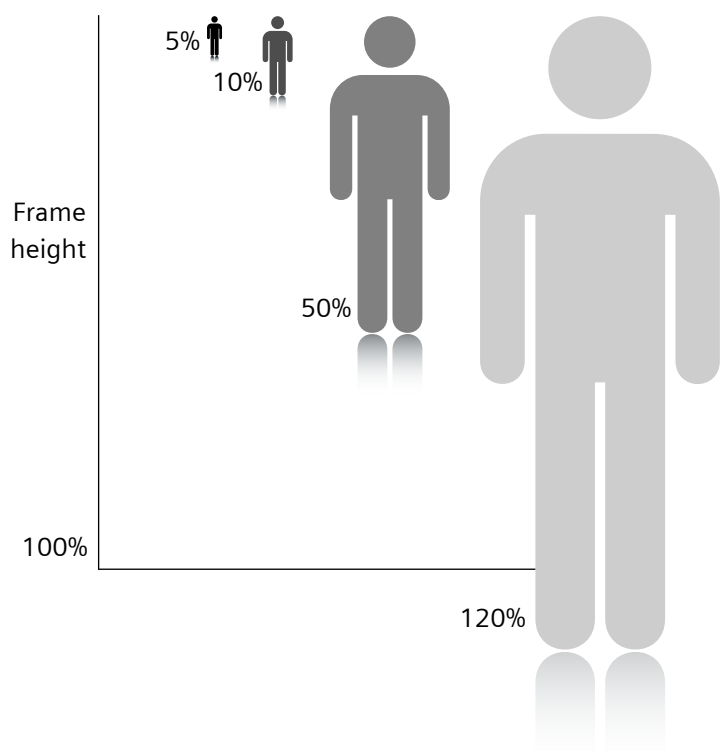
■ Outdoor lighting

The best image quality is achieved when halogen lamps are used. If lighting is triggered (by an alarm, for example), incandescent halogen should be used. If the lighting is constant, metal halogen should be used.

■ Solutions for larger facilities

It is quite common at larger facilities to use infrared light at night, because it is partially invisible for the human eye. This can be useful in order to avoid disturbing residents of nearby buildings with harsh lighting, or if one doesn't want to give potential intruders "help" with visible light. Only monochrome cameras, day-night cameras (with the IR filter disabled in night mode) and specific IR cameras can be used for these applications.

Definitions



Surveillance

The object must fill at least 5% of the frame in order to be distinguishable from other objects. One must be able to distinguish between a person or an object/overview image of what is happening in an area.

Detection

The object's height must be at least 10% of the image height. A video motion detection (VMD) system must be able to detect a movement/get a detailed overview of an area.

Recognition

To recognize a person or an object the person or object must be at least 50% of the image height. One must be able to recognize a person or recognize a typical characteristic of a person.

Identification

To be able to identify a person on a TV screen the person must be represented in close-up and be 120% of the image height. The image must be so detail-rich that the person can be identified when one compares the video image with a photograph, for example.

Siemens digital video recorders

■ Different situations and businesses demand different types of cameras. Similarly, different types of digital video recorders (DVRs) are required to archive and replay recorded material. Siemens' DVR portfolio includes DVRs for all imaginable needs. The portfolio includes a hybrid system that makes it possible to combine analogue and digital cameras, which can be

quite useful for those who want to extend an existing video surveillance system, for example. As well as compact units Siemens also offers a software solution that can be installed on the end user's own server(s). Siemens SISTORE series DVRs can also be integrated into a SiPass Entro or SiPass integrated access control system to create a complete security system.

SISTORE AX DVRs

■ SISTORE AX is a modern and flexible system for digital storage of images from up to 16 cameras. This model is particularly well suited to smaller applications such as gas stations, small shops and offices.



Model number	AX4 LITE V4	AX8 V4	AX16 V4
Article number	S54569-C51-A3	S54569-C72-B3	S54569-C92-B3
Video inputs (with looping)	4	8	16
Monitor outputs	1 BNC + 1 VGA	1 BNC + 1 S-VHS + 1 VGA	1 BNC + 1 VGA + 1 SPOT
Audio inputs / outputs	4 / 1	4 / 1	4 / 1
Resolution in view mode	720x576	800x600, 1024x768, 1280x1024	800x600, 1024x768, 1280x1024
Hard disk size (standard)	1000GB	1000GB	1000GB
Number of internal hard disk drives	1	3	3
Maximum hard disk size	1000GB	3000GB	3000GB
File format	H.264	H.264	H.264
Resolution	CIF / 2CIF / 4CIF	CIF / 2CIF / 4CIF	CIF / 2CIF / 4CIF
Maximum recording speed	100 ips	200 ips	400 ips
Alarm inputs / outputs	4 / 1	8 / 2	16 / 2
PTZ / dome control	Yes	Yes	Yes
Password protection	Yes	63 groups / 256 users per group	64 groups / 256 users per group
Power supply	100-240 VAC (25W)	100-240 VAC (45W)	100-240VAC (45W)
Dimensions	340 x 46.5 x 310 mm	430 x 88 x 405 mm	430 x 88 x 405
Integrated with SiPass Entro	Yes	Yes	Yes
Integrated with SiPass Integrated	Yes	Yes	Yes
Operating system	Linux Embedded	Linux Embedded	Linux Embedded

Did you know?

H.264 is the latest development of the MPEG standard. H.264 is a compression format that significantly enhances the ability to store images by compressing them more efficiently.

SISTORE MX DVRs

■ SISTORE MX is a hybrid system for surveillance and digital storage of images from up to 64 cameras. It is a good choice for all types of buildings, including train stations, shopping centres, factories and banks. SISTORE MX is also well suited for integration with other security systems. Integrated motion detection makes it possible to use SISTORE MX both indoors and outdoors.



Model number	MX1608 3G HVR 1TB 300 ips MX1608 3G HVR DVD 1TB 300 ips MX1608 3G HVR 4TB 300 ips	MX1616 3G HVR 1TB 500 ips MX1616 3G HVR DVD 4TB 500 ips	MX3232 3G HVR 4TB 900 ips
Video inputs	8	16	32
Maximum number of IP cameras	16	16	32
Monitor outputs	4 BNC	4 BNC	4 BNC
Audio inputs / outputs	8 inputs / 4 outputs	16 inputs / 4 outputs	16 inputs / 4 outputs
Resolution in view mode	2048x1536	2048x1536	2048x1536
Hard disk size (standard)	1000GB/4000GB	1000GB/4000GB	4000GB
Maximum hard disk size	4TB	4TB	4TB
File format	MJPEG	MJPEG	MJPEG
Resolution (analogue)	CIF / 2CIF / 4CIF	CIF / 2CIF / 4CIF	CIF / 2CIF / 4CIF
Resolution (IP)	Max 5MPix	Max 5MPix	Max 5MPix
Maximum recording speed (analogue)	200ips@4CIF	400ips@4CIF	800ips@CIF
Maximum recording speed (IP)	100ips	100ips	100ips
Alarm inputs / outputs	16 / 4	16 / 4	16 / 4
Outputs	4	4	4
PTZ / dome control	Yes	Yes	Yes
Password protection	Yes	Yes	Yes
Integrated DVD burner	Depending on model	Depending on model	Depending on model
Power supply	110-240VAC max150W	110-240VAC max150W	110-240VAC max150W
Dimensions	430 x 87 x 440 mm	430 x 87 x 440 mm	430 x 87 x 440 mm
Integrated with SiPass Entro	Yes	Yes	Yes
Integrated with SiPass integrated	Yes	Yes	Yes

Siemens recording software (NVS) for IP cameras

■ SISTORE MX NVS is an open software program for up to 32 IP cameras. It works together with most of the leading brands of IP cameras on the market. SISTORE MX NVS is available for 4, 9, 16, 32 or 64 cameras.



Model number	NVS 4	NVS 9	NVS16	NVS 32	NVS 64
Article number	S24245-P5099-A1	S24245-P5099-A2	S24245-P5099-A3	S24245-P5099-A4	S24245-P5099-A5
Number of digital IP cameras	4	9	16	32	64
Megapixel support	Yes	Yes	Yes	Yes	Yes
Integrated with SiPass Entro	Yes	Yes	Yes	Yes	Yes
Integrated with SiPass integrated	Yes	Yes	Yes	Yes	Yes
PC requirements	P4 2.4Ghz or higher, at least 1024MB RAM, Windows XP SP3 or Windows Vista, 120 GB harddrive				

Siemens monitors

■ Siemens TFT monitors provide value for money and provide excellent image quality. Choose between two variants: eco or standard. All models are optimized for CCTV applications and are very easy to use.



Model number	CMT1730	CMT1930
Article number	S54573-C10-A1	S54573-C11-A1
Size	17" / 43cm	19" / 48 cm
Resolution	SXGA 1280x1024	SXGA 1280x1024
Updating frequency	12ms	8ms
Contrast	500:1	1000:1
Brightness	300cd/m2	300cd/m2
On Screen Display (OSD)	Yes	Yes
Video inputs	1xBNC, 1xSVHS, 1xDVI-I	1xBNC, 1xSVHS, 1xDVI-I
VESA standard	4xM4, 100x100mm	4xM4, 100x100mm
Power supply	100-240VAC	100-240VAC

Lenses

■ Lenses are a very important component in a camera system. Siemens lenses are made of glass and supplied in metal housings to ensure the best possible image quality. Choose between adjustable lenses with or without IR correction (day/night).



Model number	CLVD1318/2.8-11	CLVD1318/10-40	CLVD1315/2.8-12	CLVD1325/5-50	CLVD1316/3-8	CLVD1316/5-50
Article number	2GF1667-8AR	2GF1667-8AS	S54561-B304-A1	2GF1667-8AU	S54561-B300-A1	S54561-B302-A1
Focal length	2.8-11 mm	10-40 mm	2.8-12mm	5-50mm	3-8 mm	5-50 mm
Image chip	1/3"	1/3"	1/3"	1/3"	1/3"	1/3"
Maximum relative aperture	f1.4 - 360	f1.4 -360	F1.4-360	F1.4-360	f1.0-360	f1.4-360
Horizontal angle of view	26.2-97.4°	7.0-27.5°	24.1-97.4°	5.6-53.6°	35.4-92.5°	5.5-53.8°
Iris	DC	DC	DC	DC	DC	DC
IR corrected (for day-night cameras)	Yes	Yes	-	-	Yes	Yes
Megapixel lens	-	-	-	-	Yes	Yes

Power supplies for cameras and camera housings



Model number	PSU230-12	CAPA2410-P230	CAPA2415-C230	CAPA2415-W230	AA-4124-04	MAG-15120
Article number	2GF1800-8BE	2GF1800-8BJ	2GF1800-8BK	2GF1800-8BL	2GF1705-8GH	2GF1705-8GG
Voltage	12VDC	24VAC	24VAC	24VAC	230 VAC to 24VAC	100-240 VAC to 12VDC
Amp	640mA	500mA	2.5A	2.5A	-	-
Note	-	-	-	-	400 mA, designed for camera housings CHSL2610/CHSM2510	1A, designed for camera housings CHSL2610/CHSM2510

Siemens camera housings and accessories

■ Siemens camera housings for outdoor use are not only designed in black and silver to make them look attractive, but also because these colours reflect the sun's heat best which keeps the temperature inside the camera housing as low as possible even when the sun is shining at its brightest. With a wide variety of fittings and other accessories there are few places where a Siemens' camera housing cannot be mounted.



Model number	CHSM2510	CHSL2610	CHSM2210	CHSM2211	CHSM2210-B	CHSM2211-B	CHSL4010	CHSL4011
Article number	2GF1705-8NA	2GF1705-8PA	S54561-C601-A1	S54561-C601-A2	S54561-C602-A1	S54561-C602-A2	S54561-C603-A1	S54561-C603-A2
Voltage	230V AC	230V AC	230V AC	12-24 VAC	230V AC	12-24 VAC	230V AC	12-24 VAC
Power consumption	40 W	40 W	25W	25W	25W	25W	25W	25W
IP rating	IP66	IP66	IP66	IP66	IP66	IP66	IP66	IP66
Integrated heating	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Max. camera dimensions (mm)	77x67x250	90x85x260	85x80x225	85x80x225	85x80x225	85x80x225	125x100x400	125x100x400
Dimensions (mm)	114x115x427	144x141x470	133x125x454	133x125x454	133x125x627	133x125x627	155x143x627	155x143x627

Camera mounts

■ Siemens camera mounts are designed to match all Siemens fixed cameras. They are easy to install and available in two lengths.



Model number	CAB 1420	CAB 1920
Article number	2GF1710-8BD	2GF1710-8BE
Length (mm)	140	190
Colour	Black/silver	Black/silver

Camera housing accessories

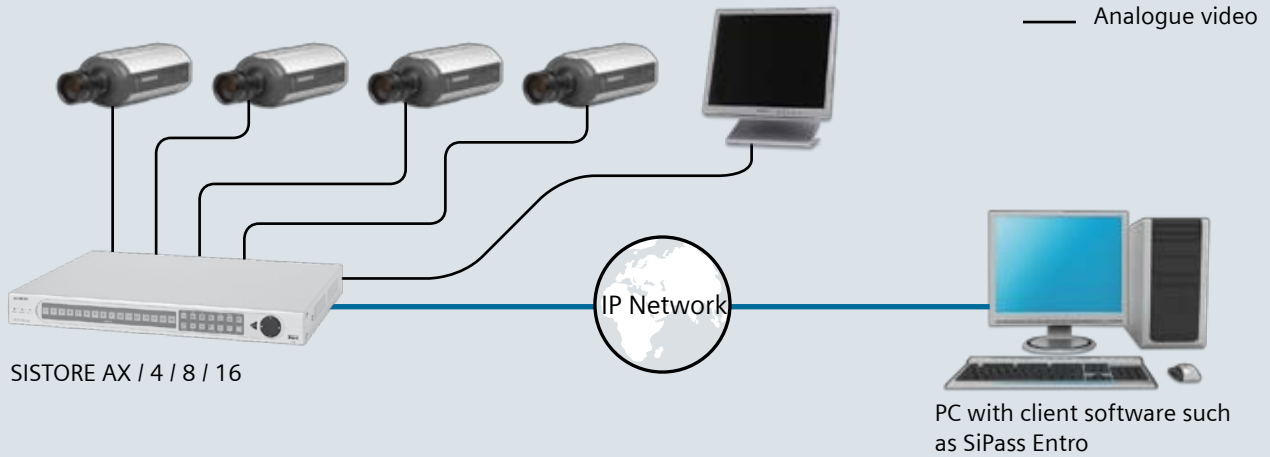


Model number	CHBC2020	CHBS2310	CHBA0111	CHBA0211	CCID1410-AB
Article number	S54561-B611-A1	2GF1705-8LE	2GF1705-8LG	2GF1705-8LH	S54561-B202-A1
Cabling	Hidden	Visible	N/A	N/A	N/A
Additional information			Accessories to enable corner-mounting of camera housings CHSL2610/CHSM2510		Adapter to use CCDA accessories for the CCID1410-ST

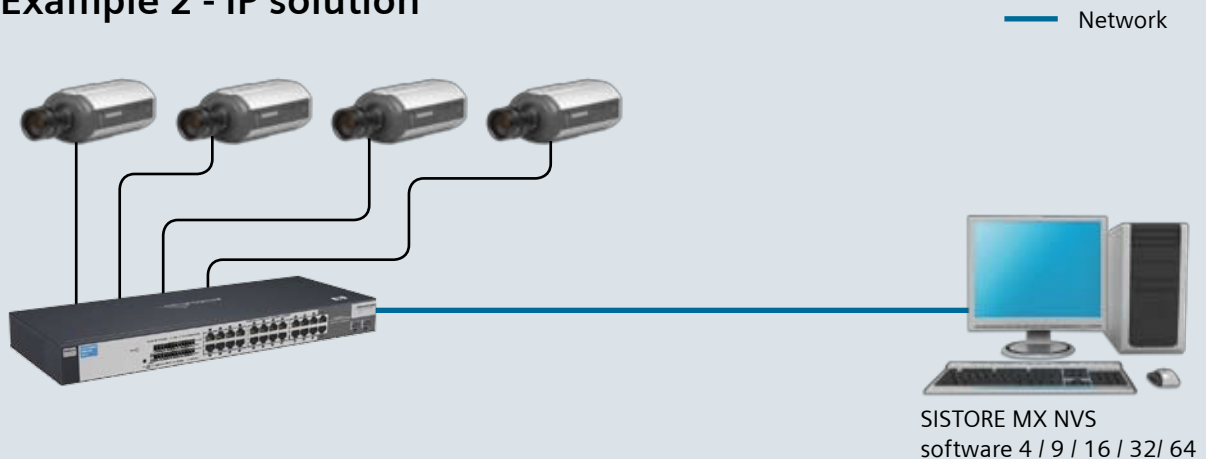
Examples

Here are a few examples of different video surveillance solutions that meet different requirements.

Example 1 - Analogue solution



Example 2 - IP solution



Example 3 - Hybrid solution



Answers for infrastructure.

■ Megatrends driving the future

The megatrends – demographic change, urbanization, climate change and globalization – are shaping the world today. These have an unprecedented impact on our lives and on vital sectors of our economy.

■ Innovative technologies to answer the associated toughest questions

Throughout a 160-year history of proven research and engineering talent, with more than 50,000 active patents, Siemens has continuously provided its customers with innovations in the areas of healthcare, energy, industry and infrastructure – globally and locally.

■ Increase productivity and efficiency through complete building life cycle management

Building Technologies offers intelligent integrated solutions for industry, commercial and residential buildings and public infrastructure. Over the entire facility's life cycle, our comprehensive and environmentally conscious portfolio of products, systems, solutions and services in the fields of electrical installation technology, building automation, fire safety and electronic security, ensures the:

- optimum comfort and highest energy efficiency in buildings,
- safety and security for people, processes and assets,
- increased business productivity.



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The information in this document contains general descriptions of technical options available, which do not always have to be present in individual cases. The required features should therefore be specified in each individual case at the time of closing the contract.

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