CCTV

SISTORE CX – highest quality IP video with recording and analysis

SIEMENS

SISTORE CX – intelligent digital video codec

SISTORE CX is an intelligent digital video Codec capable of performing multiple tasks simultaneously over a network. Utilising MPEG4 technology, SISTORE CX offers incredible performance in both transmission speed, image quality and detailed video analysis. It provides three operating modes for real-time video: transmitter mode (encoding), receiver mode (decoding) or the combination transceiver mode, plus recording.

With its unique, user-friendly, web-based installation, SISTORE CX can be tailored to the application's needs with a few simple clicks on the home page.

Fast transmission with the highest image quality

IP transmitter, IP receiver (encoder & decoder) and recorder
All in one box IP solution for up to 8 camera inputs and 4 monitor outputs with alarm inputs.

Up to 200 ips (real-time) high quality recording
Each camera can be recorded in real-time at 25 ips, so for the 8 camera model, that's an incredible 200 ips!

Advanced streaming functionality
Extension of the video coax is possible using "video tunnelling" where the camera signal goes into the network at one location and out again in a different location. Virtual matrix functionality – replacing an analogue matrix switcher, enabling video switching over the network, simply by selecting a camera and dropping it to a monitor.

True web-based remote control without the need for software "plug-ins"
SISTORE CX control via a web browser is possible without having to install "Active X™" which could cause security risks on networks that do not allow "plug-ins" to be installed.

PTZ control for dome cameras and pan/tilt devices
Full pan/tilt/zoom of devices, such as speed domes via simple to operate mouse control, including the setting and programming of presets.

Smart search with perspective
When searching for an object within a camera image, the viewing perspective of the camera is compensated automatically. Not only can a box be drawn around the area of interest. Additionally, if a particular object is missing (e. g. a palette of goods), the viewing perspective to this object area is also compensated.

"Reference image" and "Sabotage detection"
Once a camera is set, a reference image can be saved. Working in conjunction with the additional function of sabotage detection – if the camera is moved, covered, de-focused or sprayed, then a sabotage alarm is triggered. The reference image can be viewed to reset the camera to its original position.

Professional outdoor video motion detection software module "SISTORE CX EDS"
An additional software licence module SISTORE CX EDS can be installed to run on the SISTORE CX platform. The EDS software enhances the functions of the standard SISTORE CX to include a sophisticated outdoor video motion detection and object tracking system for use in applications such as prisons, airports, perimeter surveillance etc.

Highlights

- IP transmitter, IP receiver (encoder & decoder) and recorder
- Up to 200 ips (real-time) high quality recording
- Advanced streaming functionality
- True web-based remote control without the need for software "plug-ins"
- PTZ control for dome cameras and pan/tilt devices
- Simultaneous multi-client and multi-server access with no performance loss
- Smart search with perspective compensation
- "Reference image" and "Sabotage detection"
- Professional outdoor video motion detection software module "SISTORE CX EDS"
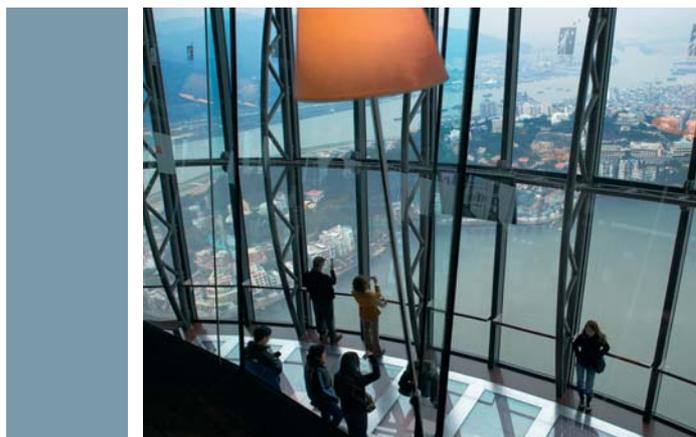
SISTORE CX1 with DIN rail mount system

Advanced features with simple operation

■ Innovative PTZ control for dome cameras

Easy to control pan/tilt/zoom devices, such as speed domes via mouse control, simply clicking in the middle of the picture and the faster it is dragged in a direction, changes both the direction and speed of the dome. Programming and calling of presets is also possible – these are easy to find at the bottom of the screen with preset names.

■ Activity detection

To optimise hard disk storage, the sophisticated activity detection system allows the user to define areas of interest in a scene and only when motion occurs inside this area, will the images be recorded.

■ S.M.A.R.T. (Self Monitoring, Analysis and Reporting Technology)

On the web page of the SISTORE CX unit, there is a complete overview of the most important readings to ensure the device continues to function properly. Readings include temperature – to avoid hard disk failure due to a temperature increase, caused for example by surrounding environmental conditions, the operator will be informed of the temperature increase.

■ Quick and easy searching

To ensure the fastest method of finding images, a mask can be defined in the area of interest, filtering the playback to only that area and ensuring no time is wasted with useless hours of watching video. To compensate for the angle of view of the camera, this mask can also be drawn to the perspective of the camera view. Flags are then presented along the timeline when movement occurs in this area – simply jump the video from flag to flag to check activity.

PTZ control via mouse with preset names

Web browser interface showing the unit status
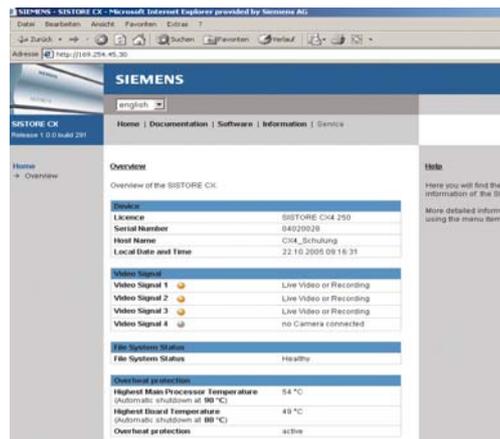
Perspective search, showing flags along the bottom of the screen

Site 1

SISTORE CX8
Encoding

Site 2

SISTORE CX4
Encoding

Local
monitoring 1

Operator

Video
monitors

SISTORE CX8
Decoding

TCP / IP
Network

Site 3

SISTORE CX1
Encoding

Site 4

SISTORE CX8
Encoding

Local
monitoring 2

Operator

Video monitors

SISTORE CX4
Decoding
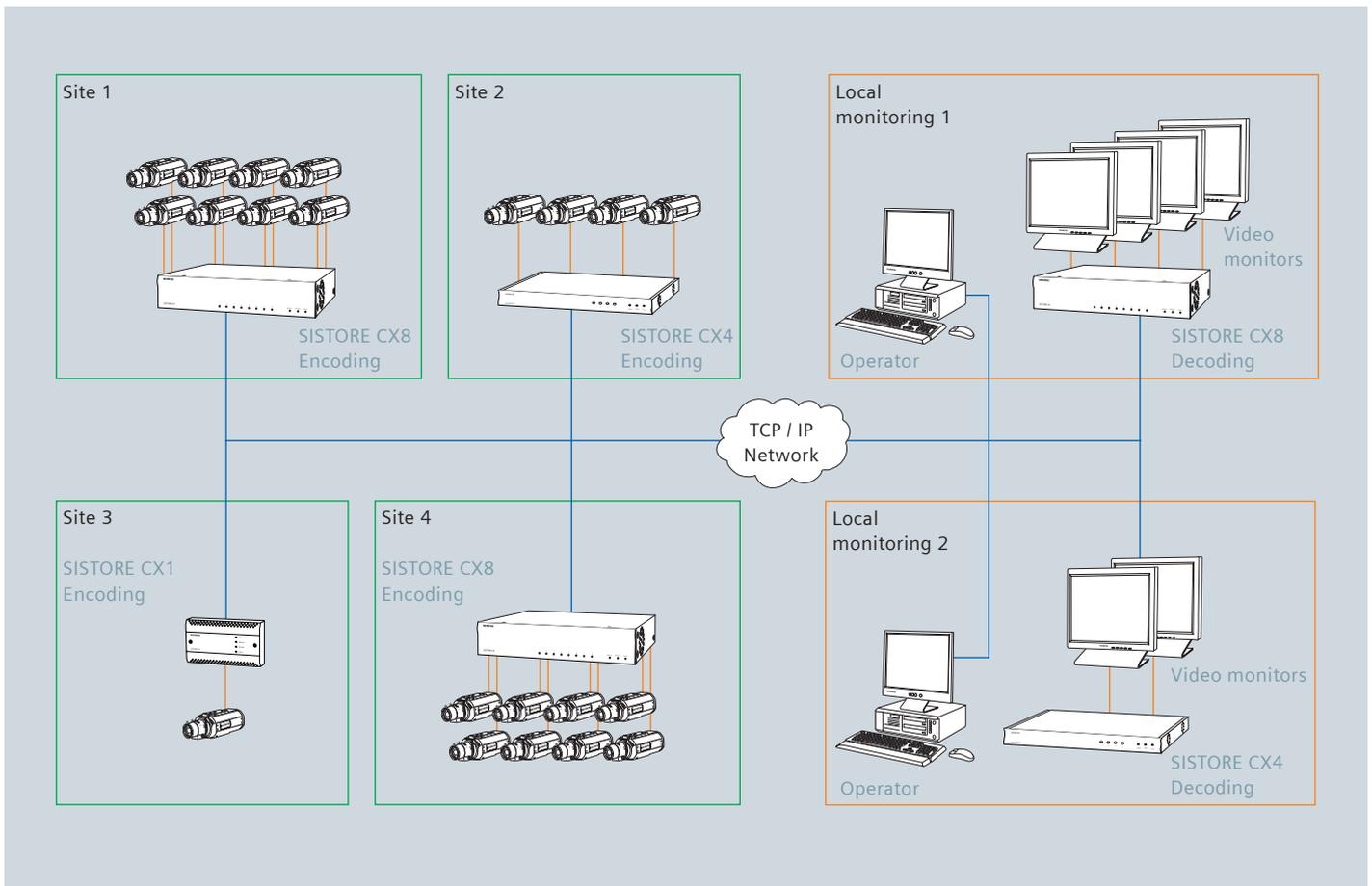
■ **Virtual matrix switching**

Traditionally control rooms would switch analogue cameras connected by coaxial cable to analogue monitors – the main restriction being cable lengths and the size of the matrix switcher in use. SISTORE CX makes the traditional analogue matrix switcher obsolete – it offers virtual matrix switching from cameras placed anywhere connected to the network to traditional analogue monitors.

The user interface presents cameras located on the network on one side of the screen and monitors on the other – it is simply a case of dragging a camera on top of a monitor and the video "tunnels" through the network in milliseconds to present the streaming video on the monitor.

■ **MPEG4 compression**

Designed to be used in network-based applications, SISTORE CX utilises the best in compression technology: MPEG4. This international standard offers both the best image quality and best compression quality, designed to both optimise hard disk space for longer storage and not requiring huge bandwidth for network transmission, saving in cabling costs.

SISTORE CX Client with cameras presented on the left side of the screen and analogue monitors on the right side – just drag and drop!

Features to match demanding security applications

■ Image viewing via web browsers
Simple viewing of images is possible via the use of web browsers, simply typing the IP address into the URL, the images are then presented for viewing.

■ Special operation in minimised mode
To save space on the desk top of the Client PC, it is possible with one click to reduce the information displayed to just the cameras being viewed. Should an alarm then occur, the alarm icons flash and the operator can increase the window to full screen.

■ Limitlessly extend the video cable!
If a camera is located in a building where it is difficult or too far to run video cable, then simply connect the camera to a SISTORE CX (encoding), then to the network. At the place where the video is to be viewed, another SISTORE CX (decoding) will then produce analogue video which can then be connected either to a monitor, or digital recorder etc. The SISTORE CX units in this operation seamlessly replace lengths of video cable, utilising the network.

■ Sabotage detection
Once set, should the camera be covered, de-focussed, repositioned, or the lens sprayed, then a sabotage alarm will trigger.

■ Internal RAID 1 (Redundant Array of Independent Disks)
Both SISTORE CX4 and CX8 offer the highest reliability of video storage via internal RAID 1 – the video is stored on both internal hard disks (mirroring the data), so should one hard disk fail, there is always a secure backup on the other.

■ External storage expansion possibilities (e.g. RAID 5/6)
Should large video storage be required for longer recordings, SISTORE CX8 has a SCSI output that can be used to extend the hard disk storage of the system to an external RAID system.

■ Unique rail mount system
SISTORE CX1 has the unique possibility to be mounted on DIN rail systems, typically found in security racks. It simply clicks onto the rail, with no other mountings required, ensuring a quick and professional looking installation.

Web browser live viewing

Special minimised operation mode

SISTORE CX
Encoders

Network

IVM
Server

SISTORE CX Decoders
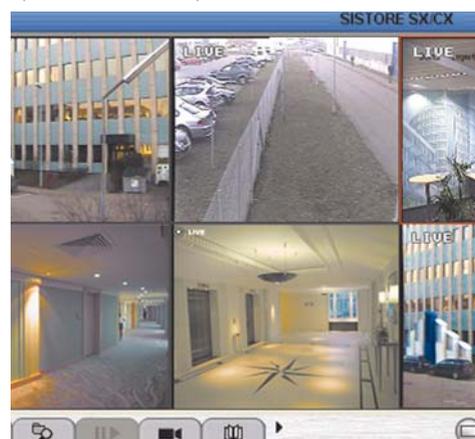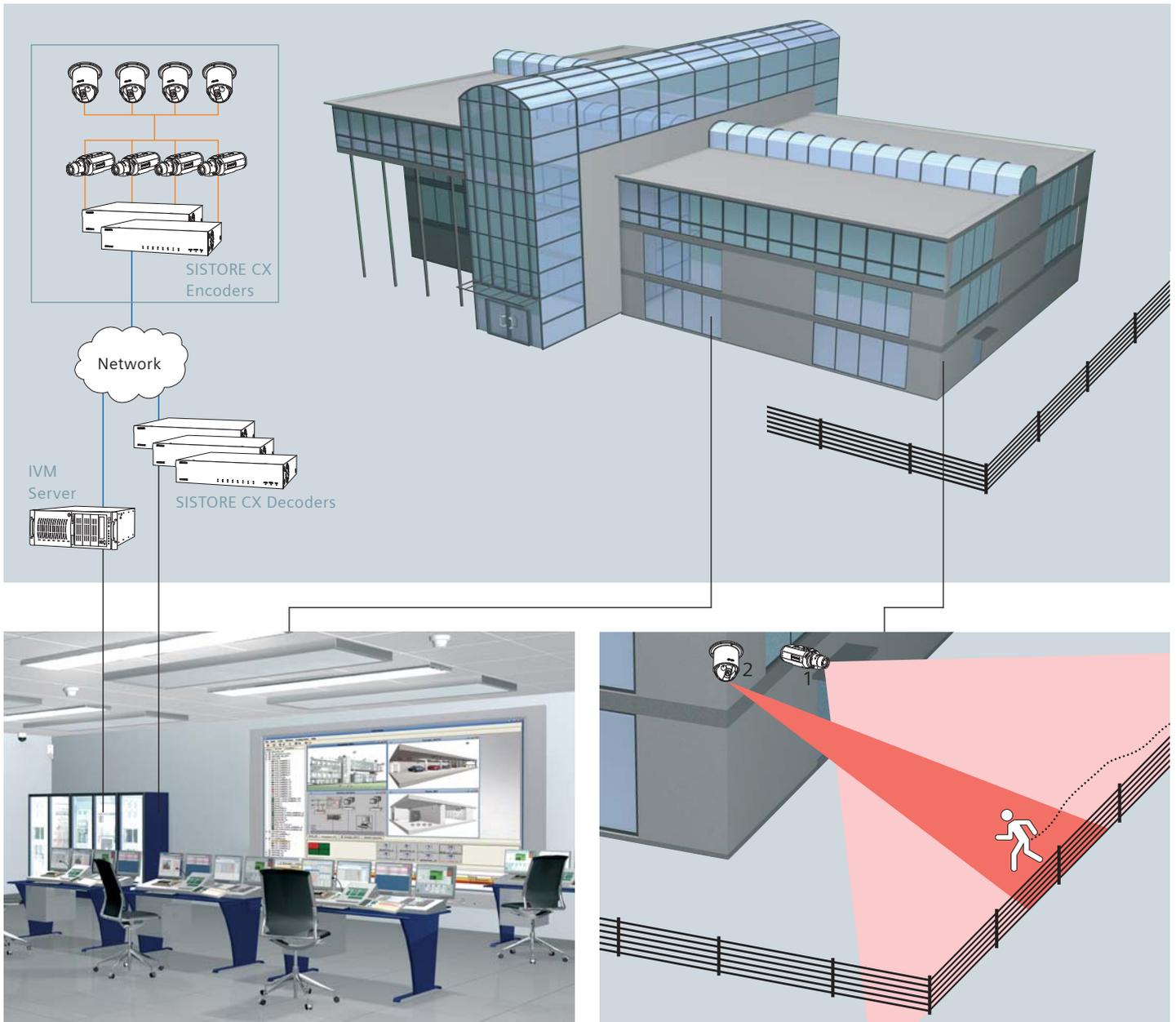
Building control room

1 Camera via EDS detects person
2 IVM sends signal to speed dome to view alarm

IVM software to control CCTV systems

■ System integration made easy

It is possible for the user to control the entire CCTV system composing of both analogue and digital components, using IVM (Interactive Video Management) software. This can be from the generation of site plans or system configuration, to displaying cameras on video walls, and the selection and control of individual video components, including SISTORE CX and SISTORE CX EDS. For example, upon connecting a camera to SISTORE CX EDS, if motion is detected and a trip wire is crossed, an alarm can be sent to IVM which in turn will send a signal to a speed dome to then automatically move to that alarm area via a preset position – this will all take place in a split second and without the need for operator intervention; a completely automated process with IVM at the heart.

■ Complete alarm handling

IVM software can extensively visualise, evaluate and document events and alarms. Upon receiving an alarm, dedicated monitors allow the user to track the development of the situation, while simultaneously the sequences are recorded and documented. The recorded images and event data can then be easily replayed and analysed via the IVM Client anywhere on the system network.

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Technical overview

	CX1 000/25	CX4 000/100	CX4 250/100 CX4 500/100 CX4 1000/100	CX8 000/100	CX8 500/200 CX8 1000/200
Display					
Video inputs	1 (with loop through)	4 (with loop through)		8 (with loop through)	
Monitor outputs	1	2	2	4	4
Video inputs / outputs	1 / 0 and 0 / 1	4 and 0 / 2 and 0 / 2 and 1 1 and 1 / 0 and 2		8 and 0 / 4 and 0 / 4 and 2 2 and 2 / 0 and 4	
Streaming	25 ips encoding (CIF, 2CIF, 4CIF) 25 ips decoding (CIF, 2CIF, 4CIF)	100 ips encoding (CIF, 2CIF) 50 ips encoding (4CIF) 50 ips encoding & 25 ips decoding (2CIF) 25 ips encoding & 25 ips decoding (4CIF) 50 ips decoding (2CIF, 4CIF)		200 ips encoding (CIF, 2CIF) 100 ips encoding (4CIF) 100 ips encoding & 50 ips decoding (2CIF) 50 ips encoding & 50 ips decoding (4CIF) 100 ips decoding (2CIF, 4CIF)	
Display resolution (H x V)	4CIF (704 x 576) = ~DVD quality 2CIF (704 x 288) = ~SVHS quality CIF (352 x 288) = ~VHS quality				
Client live display formats	1 (full screen), 2 x 2 (quad), 4 x 4, special overlay mode				
Recording					
Hard disk size	internal CF card (optional)		250 / 500 /1000 GB		500/1000 GB
Internal RAID 1			500/1000 GB		■
Alarms					
Digital inputs	2	4	4	8	8
Digital outputs	2	4	4	8	8
Video loss detection	■	■	■	■	■
Activity detection	100,000 zones	100,000 zones	100,000 zones	100,000 zones	100,000 zones
Alarm log	■	■	■	■	■
Sabotage detection	■	■	■	■	■
EDS (Enhanced Detection Solution)	via licence	via licence	via licence	via licence	via licence
Controls					
Easy-search via perspective mask	■	■	■	■	■
PTZ / dome control	■	■	■	■	■
Fast forward / rewind controls	■	■	■	■	■
Password protection	via user profile				
Connectivity					
Ethernet connector	■	■	■	■	■
Client software	■	■	■	■	■
IVM video software interface	■	■	■	■	■
Video software development kit (VSS-SDK)	standard interface for integration with third party management systems				
Export / Backup					
Image export	MPEG4 over network				
Image backup / archive	via client PC – USB to CD/DVD burner				
Storage expansion possibility				via SCSI	

SISTORE CX EDS with tracking
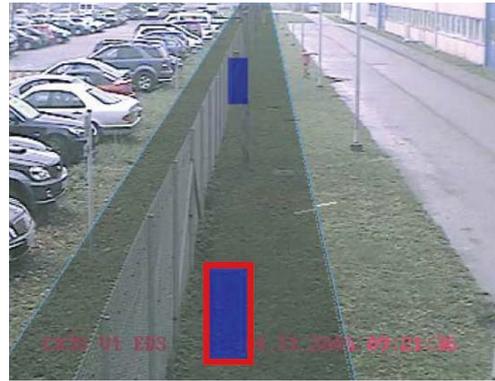
EDS perspective compensation

Reliable outdoor video motion detection system module

■ **Professional outdoor video motion detection and tracking software – SISTORE CX EDS**

The high performance hardware platform and superior technology that SISTORE CX has been developed with, allows further functionalities to be added via software modules – ensuring a secure investment in SISTORE CX. The first of these modules is SISTORE CX EDS (Enhanced Detection Solution). This software is a retro-fit upgrade via software licence to enable a standard SISTORE CX to have the additional functionality of a reliable outdoor motion detection and object tracking system, suitable for external installations such as prisons, perimeter protection and object tracking.

Rather than using the traditional methods of motion detection systems on the market today, that simply compare one image with the next image and checking for changes between the two, SISTORE CX EDS uses a statistical method analysis that actually looks in the past, continuously analysing the video stream throughout its history. Track length and direction of the object can also be set to ensure the highest detection rate, with very few false alarms and a continuing reliable system.

Simple setup via the intuitive interface, also ensures external environmental factors such as wind, rain, snow etc., reduces false alarms – becoming an outdoor motion detection system "suitable for all seasons".

Welcome to the world of innovative thinking

■ **Innovation**

Siemens invests a great deal in both manpower and research and development. This results in a steady stream of new insights, technologies and inventions that enable us to improve the reliability of our products and systems, ensuring the securest products and making our systems even more simple and convenient to operate.

Advances in digital technologies are creating a whole new world of possibilities. Siemens is at the leading edge of progress in this field and continues to redefine both current and future technologies.

■ **Reliability**

With a history of over a hundred years, if you need an established, reliable partner you are in the very best of hands with Siemens. System expansions and upgrades can be continuously made over a period of years, which ensures your investment for the future.

■ **Security**

Siemens products and systems provide you with security. Today, tomorrow and for decades to come. That's why countless customers around the world place their trust in Siemens.