«The world of video surveillance concentrated in software.»

IPS-VideoManager – Intelligent Video Analysis and Recording System
IPS products have been renowned for high performance and reliability in digital image analysis, recording, video management and image transmission for decades. Particularly in areas where guaranteed detection, high functionality and perfect operation of a security system make or break success, IPS products have been proven to be unsurpassed. Well-known reference customers from various fields such as the correctional facilities, police authorities, aviation, automobile industry, nuclear technology, public transport, petro chemistry or insurance companies have taken our products to highest performance levels due to their complex and high specification needs. Countless systems have proven their value in numerous configuration levels and ranges in international use over the years. The overall aim was to create a system with the required high specifications, which would make it ideal for almost all applications. This means: functionality, operating efficiency and ease of use all in one – for all requirements and levels.

The vision …

... to create a system, which integrates proven technology and defines new technology.

Legendary IPS video analysis embedded in a multi sensor tool.

... a system which will not lag behind the fast changing IP-based video world, but will be ahead of it.

The open plug-in architecture for image analysis for quick integration of new analysis functions – even from other suppliers.

... a system, which is self-explanatory and therefore offers ease of use – with no need for training.

The result …

... a revolutionary and new architecture for video systems which surpasses all known specifications for video systems. IPS-VideoManager stands for an all-encompassing IP-based network video system for high-resolution brand name megapixel cameras using software only. It combines professional management of IP cameras – new modes of recording using geo-referenced multi sensor 3D image analysis. This forms the basis for multi camera dome tracking on several premises, precision and fast control of dome cameras – with perfect images using a modern user interface.

IPS-VideoManager allows unrestricted customization in functionality and size – from a simple one channel video recorder to a 10,000 camera-strong global network of video clusters. Owing to its high scalability and new software architecture IPS-VideoManager is the perfect and most efficient solution for any level or upgrade and virtually all requirements. IPS-VideoManager integrates existing analogue cameras and provides modern network interfaces to communicate with other systems.

... a system, where images do the talking. The megapixel video experience using high resolution monitors and video screens.

... a system with an unsurpassed fast and informative video search capability: Timemachine – replay any incidents of the past.

... a system, which not only records and shows images, but controls processes with its built-in high intelligence.

... to create a system, which is no longer dependent on location. Safe networking via internet, functions and interfaces for mobile use (e.g. PDAs)
Multi sensor
Simultaneous recognition of various dangers utilising the new multiple video detection system

About Megapixel cameras
Megapixel cameras are replacing analogue video technology, offering new functionality and providing very high resolution images for pin sharp images. Utilising digital zoom, IPS-VideoManager displays the most minute image details. The intelligent camera management supports most camera models. Existing analogue cameras can be integrated via video encoders. This makes IPS-VideoManager also particularly suitable for restructuring or upgrading existing systems. The new software architecture stands for a diverse system, such as unlimited numbers of cameras and consistent support of multi compression technology such as H.264, MPEG-4 and MJPEG.

Performance and security
Digital compressed video streams cause considerable amount of traffic over networks. One of the great strengths of IPS-VideoManager is its ability to reduce the amount of data present. The singular data stream of a video camera is distributed to a number of recipients via multicast technology. However, transmission of live video signals in computer networks also poses great challenges in terms of security. IPS-VideoManager integrates sophisticated security mechanisms such as a camera network which is separate from the remaining network and secure data transmission via VPN connections. Central access management controls access to data and configuration, and thus ensures maximum security levels.

New recording technology ...
IPS-VideoManager records high quality digital video images. Comprehensive configuration options for managed storage, with managed deletion of stored files after a given period of time, making it widely accepted – even when applying strict legal privacy policies. The distributed server architecture of IPS-VideoManager saves extremely large amounts of data without bottlenecks. Separating image and information data also ensures fast and powerful incident searches. Blocks display alarm modes and enable fast navigation. Each camera can be allocated its own recording profile, which can be customized according to user requirements.

... including «Timemachine»
This function enables the user to roll back in time. Using a time control function, the user may roll back in time by increments of a second within its memory, thus meticulously reconstructing the state of all cameras, plans, alarms and to even control the whole system in past mode. This enables the user to switch or add cameras, to navigate backwards and forwards in time at any speed and export incidents of interest in connection with all information as a film. All video recordings and additional information is replayed in a synchronized manner. Only this will make it possible to detect complex interaction and to edit or archive incidents appropriately.

«Digital images speak for themselves.»
IPS-VideoManager records high quality digital video images. Comprehensive configuration options for managed storage, with managed deletion of stored files after a given period of time, making it widely accepted – even when applying strict legal privacy policies. The distributed server architecture of IPS-VideoManager saves extremely large amounts of data without bottlenecks. Separating image and information data also ensures fast and powerful incident searches. Block colours clearly display alarm modes and enable fast navigation. Each camera can be allocated its own recording profile, which can be customized according to user requirements.

»Timemachine«
This function enables the user to roll back in time. Using a time control function, the user may roll back in time by increments of a second within its memory, thus meticulously reconstructing the state of all cameras, plans, alarms and to even control the whole system in past mode. This enables the user to switch or add cameras, to navigate backwards and forwards in time at any speed and export incidents of interest in connection with all information as a film. All video recordings and additional information is replayed in a synchronized manner. Only this will make it possible to detect complex interaction and to edit or archive incidents appropriately.
**3D Video Management.**

**Watch**
IPS-VideoManager provides a modern user interface, which enables the user to operate even complex functions with next-to-no need for training. In the centre of the display the operator will find the three main function alarms (e.g. video analysis), monitoring and recording (Timemachine). The focus is on the user – he/she will ultimately decide, which information is important at a given moment. Anything else is displayed automatically: alarms, plans of the premises, video images, views on Google Maps, significant symbols, websites, required action, alerts, and much more. IPS-VideoManager can be customized in any way in accordance with user requirements and creates high resolution images in best quality in multi monitor configuration.

**Act**
In particularly large control centres monitor walls can be controlled using IPS-VideoManager – with no delay and digitally. The number of connected operator stations is unlimited due to use of multicast technology and multi server technology. Comprehensive control of moving cameras is a special feature. They can be controlled via joystick, soft joystick or simply through clicking on the site plan or the camera images.

**Dimensions.**

**Documenting**
IPS-VideoManager generates a huge amount of data with all its sub-systems, such as video analyses, recordings, interfaces with other systems, time control, user interaction and remote access. This data is saved systematically in SQL databases. There are two effective evaluation tools: query software with filters for exact extracts of information and statistics software, which always shows the current spread of information in standardized reports and graphical charts.

**Platforms**
IPS-VideoManager has been developed for use with Windows operating systems. A specific Java version makes it compatible with Linux and MacOS. This enables the user to install IPS-VideoManager Client in non-uniform computer offices, e.g. as additional software to other packages, enhancing flexibility and cost-effectiveness (hardware and software). In addition to that we offer wide area networking via multi server connections.

**IPS-VideoManager – fast and perfect monitoring:**
- Virtually no need for training even when using complex functions
- High resolutions images – maximum quality
- Efficient software architecture, which has been optimised for maximum speed
- Immediate and digital control of monitor walls
- Comprehensive control of moving cameras

**Compelling use of data:**
- Backup of data in SQL databases
- Evaluation using effective tools: query software with filters as well as statistics software
- Standardized reports
- Graphical charts
- Continuous and up-to-date information distribution
IPS-VideoManager contains upgrades of video analysis modules in real-time tracking for security applications in outdoor areas. The new software platform considerably extends the capabilities of intelligent video image analysis. Real 3D stereo detection, virtual 3D detection, colour evaluation, compliance, multi camera analysis or supporting geo-referenced processes are only part of the exceptional innovative capabilities of IPS-VideoManager. Analysis modules of the IPS product range are a hallmark for maximum detection quality combined with the least incidences of errors and always deliver outstanding results even under the most difficult of circumstances.

Plug-ins
The idea to further develop IPS-VideoManager to become a multi sensor platform came about with a view to the future to maximise flexibility, enable immediate response to new requirements, high scalability and as protection of investment. Investors decide, if and which type of video analysis they will require per camera – including any future analysis modules. The software architecture provides 3D core functionality. Plug-ins – that is specific analysis functions – use this mutual function and therefore provide considerably higher performance levels than conventional systems. Needless to say, one can also use several analysis functions per camera – at the same time or deferred, depending on the application.

Patented technology
The patented Three Zone Concept of IPS analysis allows the system to monitor situations in an almost human fashion. The image is split into several function areas, which makes for a much more objective and efficient view and evaluation of a given situation. In reality this means faster alarms, precise tripwire presetting, minimum errors and simplified identification, friend or foe. This process has proven very successful in a lot of applications such as monitoring of fences and facades or surveillance of public spaces in urban areas, where you would expect a lot of movement and disturbance factors.

Modules
The multitude of functions in available analysis functions is ever expanding as requirements of the market grow. Today IPS-VideoManager is already compatible with a considerable amount of various image analysis plug-ins: activity detection, sabotage detection, indoor detection, outdoor detection, graffiti detection, loitering, FireVision and dome tracking – with more being developed and endless possibilities. The fact that IPS-VideoManager also integrates analysis modules from other manufacturers will significantly speed up innovation again.
Video with 3D coordinates

Video technology is considered to be two dimensional, save a few exceptions. IPS-VideoManager boldly goes further: The combination of 3D geo coordinates and video. This enables the user to calculate space in videos – it creates a kind of virtual reality. Positions can now be calculated in the video, people or incidents can be traced or video analysis can be upgraded to include wide area motion profiles. Video management, site plans and image content become one. This means additional benefits for the user – more information, higher level intelligence and a significant acceleration in operation.

Motion profiles

IPS-VideoManager locates exact positions of intruders in connection with image analysis and subsequently creates and displays motion profiles within the site plan. This higher level function also makes it possible to create cross camera or wide area motion profiles. This means that detection is not limited to the visibility range of the camera, but will in fact cover the whole premises. This innovative, new type of technology enables the user to define cross camera detection criteria within the site plan as a special feature. Another quantum leap for video detection.

Multi Camera Technology

3D video technology calculates the coordinates of detected objects. This enables the operator to locate and zoom in on the «tracked object» and to track its movements automatically. Therefore the operator will be able to view two angles of the same situation. In other situations the co-operation of several cameras using image analysis may also be beneficial – two cameras detect more than just one. This provides a solution to surveillance requirements, which had not been, or just partially been, possible before. Multi camera solutions deliver best detection results in particularly tricky situations, where conventional image analysis would have reached its limits.

One Click Dome Control

High speed domes provide video surveillance with added value. Using your joystick, they can be moved into almost any position. IPS-VideoManager now provides a new function, which moves domes faster and more precisely into any position than any joystick could. Just one mouse click on the site plan will calculate exact coordinates and focus the dome on the desired position within a split second. The same goes for fixed cameras: One click on the image of a fixed camera and the dome focuses and zooms in on its exact position. Here, convenience means added value, which can be crucial where time is of the essence.

Convincing – IPS-VideoManager displays:

- 3D video technology and image analysis to calculate exact positions
- Display of motion profiles within the site plan
- Cross camera detection criteria
- Zoomed display
- Tracking of objects
- Best detection results

Several cameras for perfect surveillance:

- Precise control of movable cameras
- Tracking of objects
- Best detection results
Architecture
IPS-VideoManager is split into three significant levels: operator level, management level and device level. The device level contains device servers. They are responsible for processing signals from all connected cameras as recordings, image analysis and management of multi megapixel cameras. Due to high requirements in this area in terms of computing and processing performance, memory and network capacity, they are open-ended to ensure perfect operation. Management level provides central management of access rights, configuration and control of automated processes. A powerful SQL database provides fast access to data – the 3D tracking server provides higher level multi camera functions. Operator level allows for convenient and easy to use access to all live video images, motion profiles, recordings, site plans, integrated websites (e.g. Google Maps) and displays automatic processes whenever an incident takes place. The amount and on-site distribution of work stations are unlimited in IPS-VideoManager.

Traffic management
Megapixel cameras create a high volume of data, which IPS-VideoManager is able to process due to its architecture. However, if this data has to be transmitted to narrowband connections (e.g. internet, mobile communication etc.), it must be compressed to fit available bandwidth. IPS-VideoManager is able to compress megapixel data streams to the appropriate transmission bandwidth without compromising local recordings or replay. The data streams are compressed or encoded to fit a different, less demanding bandwidth format (e.g. H.264). Only this makes it possible to replay locally in high quality whilst at the same time being able to transmit to any data connection.

Security
Software-based video systems require particularly high security features. IPS-VideoManager proves that flexibility and security can be combined. Central access management controls access of all users to functions and images available to them. Changes in configuration can only be brought about with sufficient authorisation – all changes are recorded. All incidents, whether alarms, interaction, technical communication and much more are logged and saved in databases – for particularly high requirements also redundancy. IPS-VideoManager is, in all aspects, a security system.

IPS-VideoManager uses convincing system architecture:
- Ideal for processing large amounts of data
- Compression of data streams to available transmission bandwidth
- Quality of data not compromised
- Any data connection can be used
- Flexibility and security in one
Global networking
The flexible architecture of IPS-VideoManager has been developed with state-of-the-art software standards in mind and thus has maximum system scalability – from small applications on laptops to globally networked video clusters with thousands of cameras on a multitude of premises. Consistent use of standardised network protocols such as TCP/IP ensure transmission on all popular networks, such as company networks, Internet, mobile communication networks and WLAN. IPS-VideoManager is highly efficient due to its great adaptability in existing networks whilst providing maximum functionality.

Mobile use with PDAs
State-of-the-art PDAs increasingly help make functionality of video management mobile. E.g. IPS MobileClient works with iPhone and iPod Touch. Apart from watching live video images the operator can also use control functions. IPS-VideoManager supports text and email alerts with an attached alarm image. Outstanding image quality and systematic integration mean flexibility and provide ever more scope in applications for IPS-VideoManager systems.

Integration – interfaces
IPS-VideoManager boasts powerful interfaces for integration into other systems or from other systems. Not only can the system be seamlessly integrated into alarm management systems from Securiton, but there is also an open interface for integration with systems from other manufacturers. Input and output modules for the control of relays and contacts can be integrated via networks. Regardless of which interface is used, there are comprehensive configuration options available.

Connection of analogue cameras
IPS-VideoManager is geared up for integration of analogue cameras and systems. Cameras of any make can be integrated via video encoder and thus upgraded to digital systems. However, integration and re-fitting of analogue parts is also possible. This enables «soft» migration of existing systems and to combine them with the concentrated functionality of IPS-VideoManager with all its advantages and features.

IPS-VideoManager offers:
flexible software architecture
state-of-the-art software standards
maximum system scalability
high efficiency
maximum functionality

IPS-VideoManager in action:
Trade and industrial objects
Surveillance in prisons
Protection of persons and public spaces
High priority areas
Police
Power stations
Hospitals
Museums