Central Intelligent Video Management System (Viseum CiVMS)
THE WORLD’S MOST INTELLIGENT AND FUTURE-PROOF CCTV SECURITY AND SURVEILLANCE SYSTEM

Viseum UK’s world-leading software engineering expertise has produced the most technically superior and future-proof video management system (VMS). Designed to optimize the range of Viseum Intelligent Moving Cameras, and enhance existing legacy security camera networks, this unique feature-rich software platform automatically alerts security staff with the video feed and decision-support information they need to act fast and correctly. Aided by an intuitive configuration and management package, the Viseum CiVMS includes advanced built-in Viseum iVOS Video Analytics Software, video management, Physical Security Information Management (PSIM) Command Control Software, Hybrid NVR/DVR, virtual matrix and client workstation CCTV monitoring software.

Viseum Central Intelligent Video Management System Architecture
Scalable to any number of remote sites, any number of Viseum cameras, or any other common brand of cameras and security devices.

The Viseum Central Intelligent Video Management System uses a fully expandable architecture to optimize image quality from all video sources and manage data generated by all security devices. This fully distributed architecture avoids any single point of failure to deliver the world’s most advanced and future-proof video management system.
CCTV Training

The Viseum CiVMS presents many advanced software systems to be easily and securely set up and used by security administrators. The Viseum CiVMS training is given as part of its ongoing Remote Managed Support Services and/or using a 5 day Viseum Certified Training course. This level of training is suitable to introduce the benefits of our standard and further advanced software systems, and train staff with knowledge of the many intuitive system setup menus.

> Download the Viseum CiVMS Training Course Benefits <

Viseum CiVMS Technology Strengths

- Viseum iVOS Advanced Video Analytics Software – Processing simultaneously local to the camera and centrally.
- Video Quality Optimization – Real-time auto-balancing transmission and recording algorithms.
- Close to long range 360° wide view and close-up view of each incident.
- Customised and Dynamic User Interface – Optimizing situational awareness and speed of response.
- Crime Reduction Management – Map crime trends with crime reduction initiatives.
- Viseum iVOS FaceRec.
- Viseum iVOS ANPR.
- Viseum iVOS F3.
- Optimized Performance and Resilience.
- Disaster Recovery – Fall-Back Management.
- Intelligent alarm filtering/handling.
- Live view and intelligent video wall.
- PTZ Camera control (automated and manual).
People, Vehicle and other Asset Surveillance – Most commonly used Viseum CiVMS iVOS Intelligent Video Analytics Software Technology Services.

Viseum Technology is truly future-proof and leading because of its development network expertise and QA processes, which are more experienced in delivering effective customised Video Analytics Software as trusted solutions. We use open technology interfaces and modular component architectures to implement cutting-edge methodologies. Viseum’s most commonly used iVOS Video Analytics Software Technology Services:

- Crowd Detection and Behavioural Reporting.
- People or Vehicle Loitering.
- People and Vehicle counting.
- Unattended Object – abandoned/left object detection.
- Illegal Parking Contraventions.
- Object Stopped Detection.
- Queue Length Detection.
- Intrusion Detection.
- Wrong Direction Movement Detection.
- Line/Boundary Crossing – single or multiple virtual tripwire or virtual fence.
- Asset Protection – removed object detection.
- Camera Tamper/Scene Change Detection.
- Camera Vibration Removal.
- Digital Auto Tracking – using any fixed directional camera, PTZ camera, or 360 Fisheye Camera.

- Object Trace/Travel Path.
- Object Speed Reporting.
- Dedicated video analytics screen to display analyzed videos from multiple cameras, with analytics meta-data overlay.
- Quick access to Video Analytics Software settings independent for each camera.
- Additional Video Analytics Software from Viseum iVOS main library – delivered by Viseum Remote Managed Support Service.
- Customised Automated Surveillance Profiles – delivered by remote commissioning service.
- Option of project specific combined Video Analytics Software on data generated by multiple security devices and video streams.
Advanced Viseum iVOS Customised Software Technology Services and Common Systems Integration

- **Viseum iVOS FaceRec** – Automated Face Recognition Software – used on its own or integrated with Viseum iVOS F3.
- **Viseum iVOS ANPR** – Automated Number Plate Recognition – automated License Plate or Vehicle Registration Number (VRN) – for integration into other ANPR or 3rd party systems.
- **Viseum iVOS F3** – People Surveillance Software – automated identification and automated re-identification of people as they move through camera networks.
- **People and Vehicle Counting** – for 3rd party systems integration.
- **Vehicle Speed Reporting** – for traffic management and/or penalty systems integration.
- **Tailgating Detection** – for access control systems integration.
- **Queue Length** – for 3rd party systems integration.

**Supported Cameras**

The Viseum CiVMS was primarily designed to optimize the range of Viseum Intelligent Moving Cameras (Viseum IMC and Virtual IMC), and enhance existing legacy security camera networks. It is also compatible with, and designed to optimize, the vast majority of other major brands of legacy security cameras, all video sources compliant with ONVIF and all cameras that use the RTSP IP stream. Other brands and models of camera are integrated in time for project delivery. The CiVMS supports both unicast streaming (default) and multicast streaming if supported by camera model.

**Real-Time Auto-Balancing Transmission Algorithms**

Viseum has also perfected a video transmission and storage technique. Using unique balancing algorithms to optimize technical trade-offs such as available storage and communications bandwidth, Viseum achieves consistent high-quality video information.
Video Inputs

- IP video capture from wide range of sources – cameras, video encoders, video servers and DVR models.
- Analogue video capture from – cameras, PCI video capture cards, USB video capture cards, video capture cards supporting onboard video compression.
- Support for megapixel, standard HD and 4K HD cameras.
- H.265, H.264, MPEG4, MJPEG, MxPEG video compression formats.
- JPEG2000 compression on request (if supported by camera).
- Thermal and IR cameras.
- Supports multiple stream cameras.
- Independent FPS, resolution and bitrate settings for display stream, recording stream and Video Analytics Software stream.
- Adaptive video capture optimizing for real-time bandwidth management.
- Flexible modular component architecture to quickly integrate any new cameras.
- Auto-seek/discovery for IP video devices, analogue cameras and digitised inputs from analogue cameras.
- Optional GPS location for every camera.
- Y-flip video to manage difference in co-ordinated systems.
- Automatic restore of video connection.

Access Control Systems Integration

The Viseum CiVMS is brand agnostic and readily integrates with any make or model of access control system. Viseum integrated access control allows security staff to remotely open, close and lock doors and to be aware of all access events as they occur in real time. Crucially, all such events will automatically be date/time logged against relevant CCTV recordings in order to present a coherent chain of events and if necessary evidence for post-event analysis and/or judicial review.

- Manage other devices such as access control cards, motion sensors, fire alarms, etc.
- Uses any relay device based inputs.
- Flexible and expandable architecture for quickly integrating any new security device.
- Primary and secondary videos association with devices.
Video Recording

- User configurable video resolution and frame rate for each channel.
- Multiple recording modes – continuous, scheduled, on alarm.
- Pre and post event recording.
- High FPS recording on alarm.
- Operator activated recording.
- Time lapse video recording.
- Video overlay text.
- Available disk space and expected recording time indicators.
- Recording history indicator.

Watermarking on recorded video.
Automatic hard disk recycling.
Network time server synchronisation.
Multiple drives selection.
Support for RAID, direct-attached Storage and network-attached storage.
Redundant recording.
Disaster recovery recording with full data synchronisation.
Highly optimized to record up to 256 channels per server.

Redundant Recording

- Redundant recording server can be associated with every main recording server.
- Fully automated redundant recording operations, no human inputs are needed.
- Automated VMS configurations synchronisation between redundant recording server and main recording server.
- Redundant recording server replicates the main recording server and runs as a copy of main server and ensures that copy of recording is available all the time.
Viseum CiVMS Central Intelligent Video Management System using Viseum iVOS Video Analytics Software

Alarms

- **Video Analytics Software Alarms** – with false alarm filtering.
- In-buit video motion detection.
- Camera tampering/scene change.
- Network loss, network recovery.
- Video loss, video recovery.
- Low disk space, disk space recovery.
- Camera/video server alarms.
- Alarms from integrated security devices.
- External digital alarm input.
- XML-based alarm integration for alarms generated by other systems.

Alarm Management

Wide range of IP notification of alarm handing options: indicators on map, audio indicator, start multi-channel recording, multi-channel PTZ, digital output to devices, pop-up alarm acknowledge window, pop-up preconfigured live video screen, email, save alarm image, execution of user defined macros, digital output, etc.

- Dedicated recent alarms console screen.
- Ability to independently configure alarm management for alarms generated from different sources.
- Alarms stacking/queuing.
- Email and/or SMS text alarms.
- Mobile app alarm push-through for verification and response.
- Alarm categories: logs, warnings and alerts.
- Manual and auto alarm acknowledgement.
- Advanced alarm acknowledgement screen displaying active alarms queue with live and associated alarm videos.
Live Video View
- Branched hierarchy of cameras and sequences.
- Drag and drop camera selection.
- Video panorama – view multiple adjacent cameras as one camera view.
- Patrolling mode/video sequences.
- Multiple layout options combined with patrolling mode.
- Page navigation within layout.
- Compact layout button.
- Operator controlled digital PTZ facility.
- Magnifying glass.
- Video overlay text.
- Bandwidth usage indicator per camera.
- Multiple live view screens. Standard design up to 14.
- Independent layout settings for each screen.
- Standard design up to 144 video views per screen.
- Instant replay on demand.
- Virtual linkage of cameras.
- Quick access toolbar for each video window.
- ‘Hide UI’/’View Videos Only’ mode.
- Image snapshot from live video.

Camera Control
Automated control and tracking of security cameras is one of the main strengths of Viseum’s CiVMS. Features include:
- Manual operation of Viseum cameras will override intelligent automation by default.
- Camera PTZ.
- Presets and tours of non-Viseum cameras.
- USB joystick support.
- CCTV keyboard support.
- Drag and drop camera selection.

Alarms, Camera and Event Location Mapping System
- Dedicated map view screen.
- Branched hierarchy of cameras and sequences.
- Drag and drop camera selection.
- JPEG or BMP map images.
- Camera/device indicators on map.
- Alarm indication on map.
- Live video display of multiple channels and sequences on map.
- Video view state and camera indicator state for each camera.
- Device indicators display on the map.
- Alarm indicator on map.
- Map location presets.
Playback – Recreating the incident

- Synchronised playback of multiple video channels with audio.
- Video navigation: play, pause, up to 16x fast forward and up to 16x rewind.
- Slow speed playback: slow forward and rewind, down to 0.25x.
- Time-lapse video playback mode.
- Time-based playback.
- Alarm based playback.
- Branched hierarchy of cameras.
- Drag and drop camera selection.
- Multiple layout options.
- Page navigation within layout.
- Compact layout button.

Digital PTZ.
Interactive digital PTZ.
Magnifying glass.
Video overlay text.
Multiple playback screens (up to 14).
Independent layout settings for each screen.
Up to 64 video views on single screen.
Virtual linkage of cameras.
Quick access toolbar for each video window.
Image snapshot from recorded video.
Recording history indicator.

Video Export

- Video export based on time duration or alarm.
- Option for video overlay text on exported video.

- Standard format video export, exported video can be played in any standard media player.
- Native format video export with player application.

Transforming Pan, Tilt & Zoom (PTZ) cameras from being reactive infrastructure-dependent CCTV installations, to proactive independent security assets.
The only PTZ Camera installations in the world to automatically watch everything in all directions at the same time.
The only PTZ Camera installations in the world to make remote CCTV monitoring a highly efficient option, rather than just a necessary cost.
Reports and Logs

- Session logs display.
- Session alarms display.
- Detailed user logs, activity reports and system logs.
- Search user logs to generate reports.
- Report includes details like activity description, source IP address.
- Alarms search to generate alarm reports.
- Search alarms based on alarm type, channel and time duration.
- Alarm video display with video navigation controls.
- Quick access to multi-channel playback and video export associated with search results.
- Print logs.
- Save logs in TXT, CSV or PDF formats.
- Print reports.
- Save reports in TXT, CSV or PDF formats.
- Automated daily reports saving.
- Automated daily reports emailing.
- Print images.

Users and Privileges

- Multiple user levels and privileges.
- Built-in standard privileges.
- Ability to define custom privileges.
- Built-in standard uses.
- Unlimited number of users can be added.
- Ability to set privileges for any user.
- Disable or delete a user.
- Administrator control to change password for any user.
- Include user information like name, contact information, etc.
User Interface

Another key strength of Viseum’s CiVMS platform is its flexible and intuitively optimized user interface, to present the right crucial information to the right person(s) at the right time.

- Supports 38 popular speaking languages.
- Full-screen view of any video channel.
- Quick set up wizard for easy initial configuration.
- All windows can be resized to custom sizes.
- Single click ‘Fit to screen size’ support for all windows.
- Recording status summary.
- Video channel availability summary.
- Video Analytics Software status summary.
- Integrated web server.
- Simultaneous functioning of all features.
- View video channels as a list or as thumbnails.

Data Management

- Crime Reduction Management system (Viseum CRM).
- Archive or delete history data.
- Manual data clean up.
- Scheduled data clean up.
- Manual data archiving.
- Scheduled data archiving.
- Video player application is available for reviewing archived data.
Client Workstation Applications

- Standard server-client architecture.
- Windows PC client for operator workstations.
- Encrypted data communication between server and clients.
- Support for port forwarding to support remote clients, when server computer is behind NAT.
- Automatic time synchronisation with server computer.
- User configurable ‘Site name’ to easily identify each site/server.
- Support for port forwarding to support remote clients.
- Client software can be downloaded from server via secure URL.
- Automatic client software upgrade, if required.
- Multi-site monitor – connect to multiple servers and view combined data.

Simultaneously view live and play back videos from multiple servers.
- Automatic time synchronisation between multiple connected servers.
- Configuration to get live video streams from server or directly from cameras.
- Settings to control video quality and bandwidth utilisation for HTTP(S) client and smartphone client video requests.
- Integrated web server which supports HTTP(S) client – support for standard browsers Internet Explorer, Mozilla Firefox, Google Chrome, Apple Safari.
- Smartphone client, with real-time alarm notifications (audio and/or text), and ability to view alarm camera video.
- Support for Apple Safari browser on iPhone and iPad, as HTTP(S) client.
System performance for 24/7/365 operation – Optimized Performance and Resilience

A key strength is the reliability and operational performance of our software. This strength comes from our expertise capability of optimizing many routine and emergency processes to operate as one harmonised intelligent surveillance and security system. It required the CiVMS will deliver 24/7/365 operation and optimization of the security architecture without any human input until the first responders are required.

- Automatic saving of all settings including user interface settings, screen sizes, screen location across multiple monitors.
- Automatic full system restore after unexpected events like power loss.
- Diagnostics parameters display.
- Fully distributed architecture with no single point of failure.

- Automated server resource optimization and prioritisation.
- One-click import and export of all settings for backing up or for replicating the same setup on another computer.
- Failover management server.
- Redundant recording server.
- Watchdog to monitor application system health.

Disaster Recovery – Fall-Back Management

Security and surveillance systems play a crucial role in managing business continuity and contingency operations. Failure of any such system could have significant repercussions. We have therefore designed CiVMS with the highest level of resilience and failsafe features. Additionally, should the customer require it, Viseum can deliver mirrored operational processes and back up to storage servers, so that in the event of a major event, CiVMS can automatically and seamlessly switch over to backup equipment and/or other control room in another location.
Viseum Technology and Support Strengths

This is a brochure presentation of our technical support and capabilities. It is very successful for Viseum sales training and provides our customers with confidence in our project support and delivery.

Legal Statement

We have invested heavily in the protection and policing of our intellectual property rights (IPR). Central to our business is the commercial protection we provide our partners in sharing these secured markets. We commit to the policing of this IPR in the following way: As with any infringement, its trade reseller is the primary target for legal action, which is, in turn, followed up by making the potential user aware of the infringing product’s recall due to its illegal use. This is then followed up with full and complete legal action with the suppliers of such goods. This policy of proactive policing our markets in this way since 2002 has proven so successful that we have only ever identified one infringing party. A PLC entity was found to be trading with infringing goods and they can now no longer sell such goods, nor can they secure investment due to this breach.

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