



## HEALTH CARE

POWERFUL SURVEILLANCE SOLUTIONS FOR HOSPITAL SECURITY AND OPERATIONS



### Introduction

Providing a video surveillance solution for Hospital and Healthcare facilities presents numerous and unique challenges. Health and safety systems have to be managed and monitored across multiple buildings, wards, receptions, theatres, perimeters, grounds, public spaces, and parking areas, which all need to be secured in order to keep thousands of patients, visitors, and staff safe. Simultaneously, privacy needs to be maintained and cyber security invasions prevented.

In the wake of COVID-19, Hospitals are often inundated with patients and may be underfunded, with security staff being stretched to their limit. The question is, how can we make it easier for managers on site to handle this challenging environment? CathexisVision brings together a number of different systems and cameras in order to monitor Hospital and Healthcare facilities in a convenient and cost-effective way. Our strength lies in seamlessly putting existing systems into dialogue so that they can effectively interact with each other, and here are just a few of our biggest strengths.

### Key features

- Reducing the risk to Hospital infrastructure, as well as health and safety by applying intelligent surveillance techniques.
- Implementation of technology to provide an effective and efficient “smart” Hospital environment through the use of sophisticated management tools.
- Through our cutting-edge Video analytics/AI, we can perform many automated functions like detection of loitering and abandoned objects or tracking people and vehicles across a broad space, creating a Hospital environment that is transparent, easy to monitor and safe for staff, patients, and visitors.
- Providing fast, real-time alerts, making it possible for response teams to react quickly to incidents such as, fire, intrusion, theft, violence, and other threats.
- Our suite of surveillance tools reduces the burden on control room operators. Our product does the thinking for you, creating an effective, efficient environment.
- System reliability and maintenance, maximising up-time and reducing risk.
- Addressing privacy and cyber-security compliance on various levels.



Effective Innovation

# Perimeter monitoring



As the first point of entry onto the Hospital grounds, perimeter protection is of paramount importance. Cathexis offers numerous sophisticated tools, which work seamlessly with normal or thermal cameras to provide real-time alerts, assisting security staff in making informed decisions. For example, CathexisVision has its own Video Analytics suite which can be configured to detect people crossing perimeter boundaries.

The software also integrates with third party electronic fence monitoring systems, which provides a double layer of security when used in conjunction with CathexisVision Video Analytics. These methods, in tandem with the sophisticated control room and alarm management solution, facilitate an effective environment and speedily guide operators to areas of concern, allowing them to take immediate action in pressurised situations.

# Public Spaces



Public areas such as visitor car parks, main entrances, receptions, walkways, and corridors are some of the most difficult areas to monitor and attract a great deal of thoroughfare. The scenes and events that take place in public spaces are not always predictable and require a superior surveillance solution.

There may be many hundreds of cameras for operators to monitor, so it is extremely important to be able to allocate cameras, or groups of cameras, to specified users. It is imperative to ensure that these users can easily view unusual events, and take action when they occur. Additionally, it is vital to take into account just how key areas are monitored; for example, entrances, exits, receptions, public waiting areas, car parks, corridors, and cash counters may require specific detection resolutions depending on particular requirements. Furthermore, no rooms or wards are usually monitored in order to maintain the privacy of patients, but a thorough surveillance system needs to be able to closely monitor movement in and out of these spaces.

## The system needs to provide operators the ability to:

- Easily follow people or vehicles across multiple cameras without having to choose specific cameras. This objective is made possible with our Adjacent Camera mapping feature.
- Use the SMART search feature to easily find events of concern.
- Quickly review footage on one or more cameras.
- Control PTZ cameras for object tracking.
- Use Video Analytics to trigger events after hours or during periods when these areas should be vacant, or when there is unusual activity.
- Detect loitering or abandoned objects.
- Archive video across one or more cameras to media devices.
- Allow staff vehicles in and out of areas as well as block unauthorised personnel. This can be achieved through CathexisVision ANPR (Automatic Number Plate Recognition), which performs automated actions when a recognised plate falls within a designated group. When a plate within a staff group is identified, one may choose to open a boom-gate, whereas one could raise an alarm when a plate contained in the blacklist group has been detected.

# Buildings



There is a broad spectrum of buildings within a Hospital facility, with open public corridors leading to various departments such as outpatients, emergency, wards, examination areas, surgeries, dispensaries, canteens, cafés, and car parks for staff and visitors. While other areas are off limits to the public and reserved only for staff. Each of these areas in a Hospital facility requires unique and tailored solutions. In this context, CathexisVision has many features that enable operators to take immediate action and make informed decisions.

Video Analytics with Artificial Intelligence algorithms enable the system to create alerts when there is unusual activity in a designated area. In a complementary manner, our extensive suite of search tools empowers operators to easily find footage relating to specific incidents.

In response to COVID-19, CathexisVision is working closely with thermal camera manufacturers to generate temperature alert capability, and this can help to monitor the health of visitors and staff entering hospital buildings. Through adding temperature screening to our software, we have designed a tool that can provide a visual representation of temperature and trigger alerts at pre-determined thresholds. The real-time visual and audio alerts, will notify users and the system can also be configured to take other actions such as send email notifications, switch camera video walls, and much more.

Integration with third party products like access control, intrusion, and fire panels, video intercom, EAS tagging, Nurse call, and panic systems is a special strength of CathexisVision. This gives Cathexis the capability to associate, display, and record cameras with events from these 3rd party systems.

Alerts can be created and databases mined, while more sophisticated procedures such as arming or disarming of intrusion panels can be performed either locally or remotely from the CathexisVision software. Integration with intercom systems also enables operators to use bi-directional audio communication.

## Integration

# Access Control



Cathexis has integrated with many premium, globally used access control systems. Integration provides important video verification of access control transactions and delivers an effective management solution.

Access control integration enables the system to create events on specific transaction types (like anti-passback or after-hours transactions), which will in turn, trigger site actions.

Examples of site actions include playing a notification, switching a camera to a monitor, and moving a PTZ camera in order to automatically inform the security staff of crucial events.

The Cathexis system gives users the ability to search the access control database to find specific transactions as well as the associated video footage. For instance, an alarm can be triggered if someone tries to access an area that they have no rights to enter. The operator or manager can be immediately alerted to the event along with its date, time, location, and associated video footage.

## Integration

# Smoke and Fire Detection



Fire and smoke alarms must be taken seriously and dealt with immediately to protect the patients, staff, and visitors on the Hospital premises. Most Hospitals have many alarm panels across multiple buildings that need to be monitored. Any smoke or fire alarm must be investigated with discretion in order to avoid panic. Cathexis can integrate with multiple smoke and fire alarm panels, to efficiently show the operator on the alarm gateway which unit has been triggered. The geographic map location, and associated video footage from cameras in the immediate vicinity are also supplied. This provides the operator with an instantaneous response and a visual representation of whether this is a false alarm or a genuine emergency.

## Integration

# Intruder Alarms



Larger Hospitals will have a number of intruder alarm panels covering multiple buildings or departments, which can all be integrated with the CathexisVision VMS to notify the operator or department manager where and when an alarm was triggered. This is supported with the geographic map location and associated video footage from the nearest CCTV cameras, which can be used as evidence to investigate the event.

## Integration

# Electronic Article Surveillance



Cathexis effectively integrates with EAS systems to enable Hospitals to keep track of expensive equipment, beds, and drugs, that have been tagged. An alarm can be triggered when the item is removed from the building or department, and this trigger is linked to CCTV Cameras via Cathexis software. The result is that the operator is provided with an informative map showing the location of the event and associated video footage. This technology can also be used with baby tagging in maternity wards, to track any unauthorised movement of babies from the facility.

## Integration

# ANPR



Monitoring traffic in hospital areas such as roads and parking spaces is vital in ensuring the security of patients, staff, and visitors on site. CathexisVision ANPR compares lists of plates in configured groups, for instance blacklists, staff groups, or contractor groups making sure only legitimate vehicles enter the site. The software also offers a comprehensive database search facility for finding license plates.

## Integration

# Speed Algorithm



Our speed algorithm provides alerts and recordings of vehicles travelling at speeds higher than a desired limit within the hospital grounds. While this is not used for law enforcement, this feature will alert operators to unusual or dangerous driving in the Hospital vicinity.



The Cathexis Object classification algorithm (AI), allows users to search for vehicles by type, for example car, truck, motorcycle, bicycle, or person. In addition, the algorithm enables searching by colour; one may want to find all “red trucks” within a specified time period on a specific camera, or across multiple cameras.

## The Control Room



In order for all features and integrations to add value, the control room environment needs to provide an effective user interface. CathexisVision achieves this through the following features:

### Interactive Maps

A multi-layered map enables users to “drill-down” into areas of interest within a Hospital or Healthcare Facility. From a general overview map, users can click on a map area, zoom into the area in question, and then select and view cameras from this section of the map. The map provides graphical alerts from one of the many events that can be configured on the system and also enables users to control third party devices.

### Alarm Management Gateway

The Alarm Management Gateway is a complete event management solution. Events can be allocated a priority level, as well as event-specific cameras, sites, and maps. Operators will be automatically guided to the exact camera and/or map upon the event reception. In addition, operator procedures will be automatically presented. A log of all events and operator activities is kept in the history database.

### SMART search features

As touched upon across this document, Cathexis has several SMART search features, which enable users to quickly find video footage of specific incidents.

### Video wall

The video wall facilitates the control of many monitors from a single “mimic” panel. The video wall also enables tours of cameras, and tours of layouts, on selected panels or monitors. Furthermore, cameras can be automatically switched to selected monitors on events.

### Multi-site connection

Some Hospital facilities opt for a central command centre to manage several sites. The CathexisVision software makes possible simultaneous connection to multiple sites, buildings, and departments, with concurrent viewing of cameras from these locations.

### Financial Viability

The financial viability of Cathexis is unparalleled, with many other companies requiring expensive payments for integrations whereas we charge for the integration license only, which is extremely cost-effective. Most of our competitors charge a license and development fee, while we don't enforce any annual license fees at all. We support Hospitals over time, and Healthcare facilities don't pay development costs. There is no need to pay for pricey upgrades and overall expenditure on the project is minimal, while Hospitals continue to reap the reward of a high-quality operating system.

# Integrated Solution

