AI-enabled security solutions for healthcare

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COMMUNICATIONS

Healthcare facilities are among the most vulnerable locations in society. A mix of public access, people seeking care, prescription drugs, valuable equipment, and rising instances of workplace violence have created a high-risk environment. This makes keeping patients, staff, and visitors safe a very complex task.

There is no one-size-fits-all approach. Each use case poses a unique set of challenges, be it medication monitoring, visitor management, or emergency response. As a result, healthcare systems are leveraging increasingly advanced technology and surveillance systems within their broader physical security strategy.

Healthcare providers the world over trust Axis to protect people, property, and the integrity of their organization. Axis has a range of AI-driven solutions to enhance your facility's security posture, drive new operational efficiencies, improve incident responses, and enrich the patient experience. Our extensive portfolio of cameras, audio equipment, access control, AI-powered features, applications, and unified platform allows us to tailor systems to your exact needs.

We understand that when adopting any new security technology healthcare administrators must account for a huge range of sensitivities, regulations, and risk factors. Not only do our solutions adhere to the strictest security standards, data protection and mobility regulations, we have made using them as simple and accessible as possible.

Built on open standards, our solutions give you flexibility, scalability, and straightforward integration with existing systems, workflows, and devices for easy and meaningful adoption.

Our products and solutions integrate with a vast ecosystem of alert communicators that can span interdepartmentally within a hospital. This allows for relevant computer vision alarms to be routed to relevant parties and not bog down other departments with low value alarms.

Together with our global network of partners, Axis can provide you with the means to future proof your security systems with market-leading technologies.
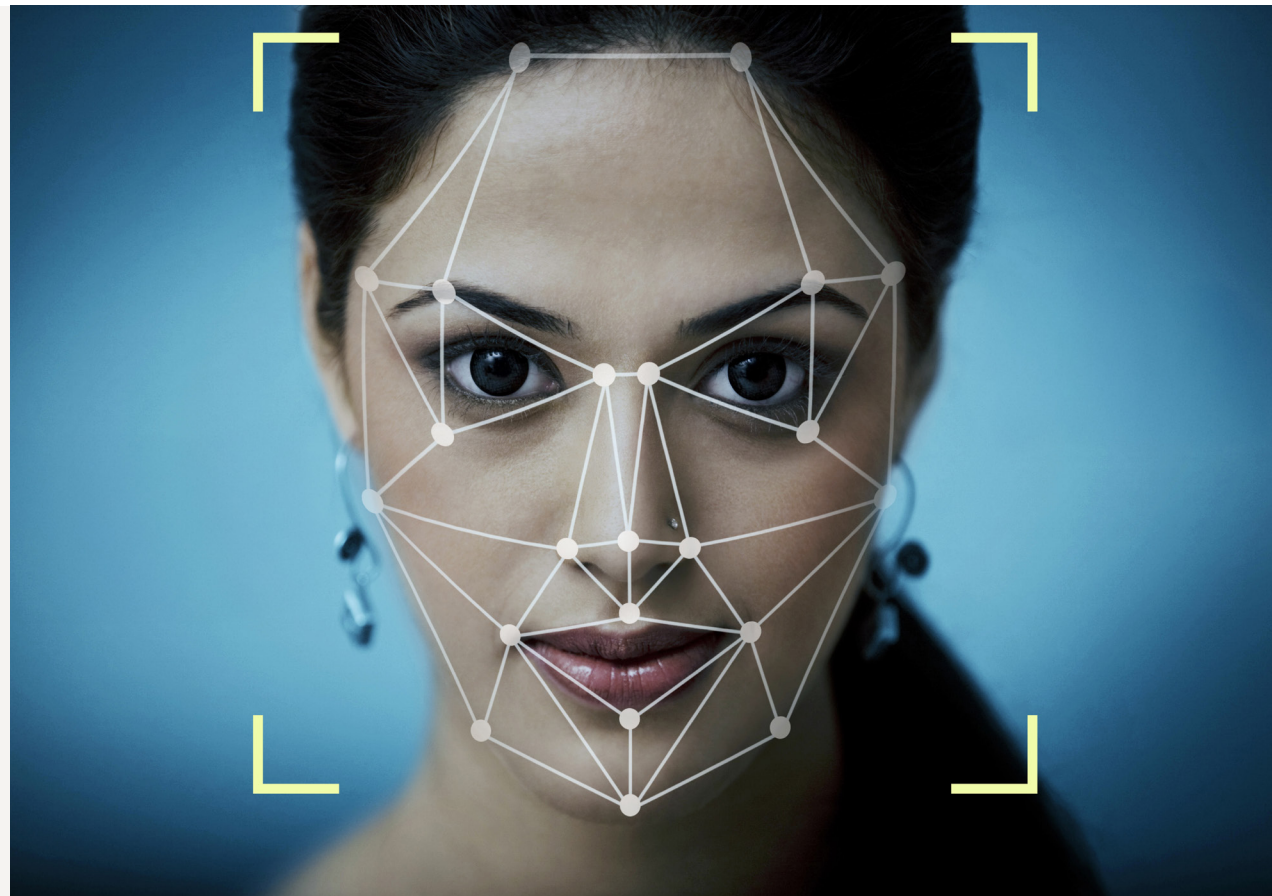
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Facial recognition

Healthcare facilities experience high census regularly. It makes knowing who is on, and meant to be on, your premises extremely difficult. AI-driven facial recognition (FR) provides several useful advantages here, from spotting persons of interest (POIs) through to biometric access control and evidence searching.

When a scanned person does not match an existing staff or watchlist profile then all images and resultant biometric information is deleted immediately and permanently, ensuring the strictest levels of privacy compliance.

Person of interest alerts
Facial recognition solutions can send targeted alerts when POI enter your premises. Operating even with face coverings, they provide effective warning and prevention of casing, violent offenders, and other forms of crime. Systems can track a POIs movements across locations and are built to handle multiple faces on a stream.

Access control
Facial recognition can serve as a highly accurate touchless biometrics access solution. It is much more hygienic, secure, reliable, and accurate than keycard-based access which can easily be misplaced and is infamous for being shared among staff. FR technology can also work as part of a multi-factor authentication system for the highest level of physical security available.

Evidence searching
When reviewing existing footage, facial recognition technology can be used to quickly and accurately identify suspects. It significantly expedites investigations as watchlists can be augmented by third parties in law enforcement.

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Visible weapon detection

Gun violence is a very real threat for healthcare facilities. Identifying a person(s) carrying a weapon is both a formidable and extremely sensitive task, requiring validation, precise escalation procedures, and rapid response.

The use of more traditional solutions such as metal detectors is a very accurate means of weapon screening. They work well when someone enters the building through typical ingress points. Layering on visible weapon detection AI models provides a much-needed force multiplier to your security posture by providing visual validation and evidence, both inside and outside of the facility.

It has the ability in certain conditions to recognize and expose brandished firearms and alert security staff for human validation. Upon identifying the brandished weapon, it triggers both multi-channel communication alerts to pre-defined recipients and automated pre-defined safety protocols, such as automated access controls.

The combination of these rich capabilities provides safety teams with the broadest array of solutions, spanning emergency prevention, notification, engagement and management. This emerging technology still needs to consider the basic needs of people, processes and technical limitations to complement the overall solution.

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Acoustic monitoring and alerts

Sound is often the earliest indicator of an incident. Being able to identify and respond quickly and meaningfully to specific sounds can greatly affect an incident's outcome.

Advances in AI have led to the development of highly accurate sound detection analytics. These solutions add an extra dimension to active incident management by catching audible indicators of imminent or present threats. They can also be combined with video analytics for even greater accuracy.

Through our AI-driven acoustic monitoring we automatically filter through the ambient "noise" to alert you to actionable security events.

This same solution can also be used to enhance patient care, monitoring, and alerting when symptoms such as coughing or wheezing occur.

This AI-based application notifies you whenever something relevant happens, even when audio recording is disabled and there's no visual indication. This is possible as it only transmits metadata as opposed to the audio stream itself.

As part of our audio privacy control, audio streaming is disabled by default and it's up to the user to turn it on. These solutions can be particularly useful in environments where video cannot be used for privacy issues such as sensitive areas.

Acoustic monitoring solutions can detect:

> Developing incidents such as aggressive behavior

> Breakages

> Sudden increases in volume

> Screaming and shouting

> Firearm discharge

Giving you the chance to respond immediately and appropriately.

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License plate and vehicle recognition

Vehicle access points are among the first areas over which security teams have control. Early identification of suspicious vehicles can greatly reduce the chances of escalation and improve crime prevention.

AI-driven license plate and vehicle recognition tools offer real-time alerts and controls. Able to recognize vehicle types, colors, read and cross reference license plates with existing databases – be they registered staff vehicles or criminal watch lists – these tools provide powerful and actionable data to security teams.

These same solutions can contribute toward improving the day-to-day management of your parking facilities, assisting with things such as ticketing and automatic payments, queue reduction, and space availability.

Vehicle identification can be used for:

> Access control, opening gates for authorized vehicles

> Automatic registration of visiting vehicles

> Wrong-way detection and alerts

> Watch list monitoring, alerting staff to the presence of registered vehicles

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Loitering detection

People wait at healthcare facilities for all kinds of reasons. It's important that security teams can distinguish between casual waiting and loitering with intent.

Often, members of the public will loiter because they are lost or cannot access facilities after hours. These people can need urgent assistance and so identifying and responding to them in good time is critical. Surveillance systems can in fact help facilities meet aspects of the regulatory requirements of Laura's Law.

At the other end of the spectrum, wrongdoers will loiter around high value locations such as medication stores, as well as parking lots, or ingress points. Security teams need timely alerts to respond meaningfully and prevent any escalation.

Loitering detection technology tracks people and triggers an event, such as lighting, sounds, or staff notifications, if they've been in an area for too long.

As well as helping prevent crimes like vandalism, theft, and break-ins, this intelligent solution results in far fewer unwarranted alarms than with basic motion detection analytics. Also, by sending and recording video only on event triggers it makes reviews and searches easier, while reducing bandwidth and storage needs.

What's more, this technology is not limited to monitoring people. The same solution can monitor for any undesired object spending too long in a defined point of interest. This is particularly useful for spotting vehicles or deliveries blocking entrances, emergency bays for ambulances, drop of points, access routes, and more.

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Clothing color identification

The color of clothing or a vehicle is frequently used to identify individual members of the public, staff, and vehicles of interest. It can at times even signify credentials, such as scrubs being blue or turquoise, or protective hazmat suits being orange or yellow.

AI-based object tracking allows you to identify and track persons of interest around your facility based on the color of their apparel. Both the color of their upper and lower garments can be tracked, allowing for greater accuracy and more precise search capabilities when reviewing footage.

Likewise, a vehicle's color can be used as part of the defining search criteria. When combined with other metadata such as time frame, location, or type of vehicle, powerful forensic search capabilities can help you readily find persons and vehicles of interest.

Color identification can also be used as part of access control where specific garments are required to be worn, such as scrubs and gowns in operating theaters. When used in conjunction with facial recognition technology, it not only enhances security through multifactor authentication but also helps ensure best practices and strict procedural compliance.

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Unified communications

In healthcare, effective communication is vital to delivering a safe environment for staff, patients and visitors. Whether it's an evacuation or an active shooter alarm, sending a page requesting medical assistance, or pressing a panic button when confronted by a disruptive individual, the appropriate communication must reach the right people the moment they need it.

Unified notification tools help healthcare facilities prioritize safety while delivering efficient, targeted communications through any and every channel, both across the entire site and externally.

Readily integrating your existing systems and workflows, unified notification tools provide robust configuration options for precise and deliberate communication.

Unified communications can:

> Automate message sequences and recipients for specific scenarios

> Send intrusive audio, visual, and text alerts through speakers, signage, and personal devices (pagers, mobile phones)

> Establish internal groups and zones to avoid sensitive areas and minimize disruptions in other areas

> Set up external groups such as with police and fire departments

> Trigger silent alarms or send panic messages with a touch of a button

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Fall prevention

Keeping track of patients and their whereabouts is a perennial challenge. It is important that nursing staff are aware of when a patient leaves their bed or even attempts to, has been out of bed for longer than expected, or indeed has fallen, to allow a timely and appropriate response.

An AI-powered patient out of bed, fall and elopement solution uses computer vision to identify and track body positions and automatically send an alert when a fallen person is detected in view of the camera. Even partially visible people can be detected.

The program will also notify staff when the patient has eloped. Users can also create customized alerts, for example, once a second person enters the room.

The analysis takes place directly on the camera, meaning no additional hardware or infrastructure is needed.

Healthcare – AI-enabled security solutions

WHY AXIS?

Privacy, data protection, and cybersecurity

We understand that healthcare providers handle some of the most sensitive data there is. Using surveillance technologies respectfully within these environments can be particularly challenging.

Not only do we build all our solutions to the highest security and regulatory compliant standards, but we also provide a range of privacy-first technologies to suit the needs of your use case.
These include technologies such as:

> **Versatile dynamic privacy masking.** This AI-based technology enables dynamic masking of moving and still objects such as humans, license plates, or backgrounds. With different levels of masking available, for example you may need to mask entire human bodies or just faces, users can choose the appropriate level of masking or even designate masking exclusion areas.

> **Thermal imaging cameras.** Ideal for detection purposes in sensitive areas as their sensors do not produce the minutia of detail required for identification purposes.

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We implement cybersecurity best practices throughout development of our solutions, spanning our information security management system, supply chain, software and hardware development, and vulnerability management. And because cybersecurity is a shared responsibility, we also offer ongoing customer guidance, technologies, tools, and services.

WHY AXIS?

Total cost of ownership

When you are looking at a network solution, the price tag on the camera is only the tip of the iceberg. The total cost of ownership includes solution design, deployment, operation, and maintenance. Those associated costs make up most of the cost of owning the camera over its lifetime.

Here, Axis shines. Why?

> Our extensive customer tools to save time and money in product selection and site design

> We have developed our solutions using open standards meaning they integrate readily with your existing systems

> We make technologies that lower bandwidth, storage, and energy consumption, noticeably reducing ongoing operating costs

> We build high-quality, rugged cameras that last, even in harsh or vandal-prone environments

In other words, we save you money every step of the way, from design and deployment to ongoing operation and maintenance.

The savings on hidden costs, together with the return on your investment, and depth of our portfolio are the core of the Axis advantage.

WHY AXIS?

Get secure

Today's AI capabilities can greatly enhance the safety and responsiveness of security teams and healthcare professionals alike.

Our robust range of products and services, further bolstered by our extensive partnership ecosystem, means we can provide bespoke solutions tailor made to your facility's needs.

Together, we can significantly enhance your physical security posture, improve care delivery, and increase operational efficiency.

Cameras, analytics, intercoms, and speakers are powerful tools for patient care. An Axis network solution integrated with partner's technologies, isn't just a way to ensure you have enough hands on deck. It's a flexible, scalable solution that enables you and your facility to set a new standard for hospitals.

To learn more, visit: www.axis.com/healthcare

Or, find an Axis partner near you and start enhancing your security today.

Together with our experienced partners, we tailor and design a solution that multiplies your efforts to reach the highest standards in quality care, safe and secure facilities, and efficient services.

About Axis Communications

Axis enables a smarter and safer world by improving security, safety, operational efficiency, and business intelligence. As a network technology company and industry leader, Axis offers video surveillance, access control, intercoms, and audio solutions. These are enhanced by intelligent analytics applications and supported by high-quality training.

Axis has around 5,000 dedicated employees in over 50 countries and collaborates with technology and system integration partners worldwide to deliver customer solutions. Axis was founded in 1984, and the headquarters are in Lund, Sweden.

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