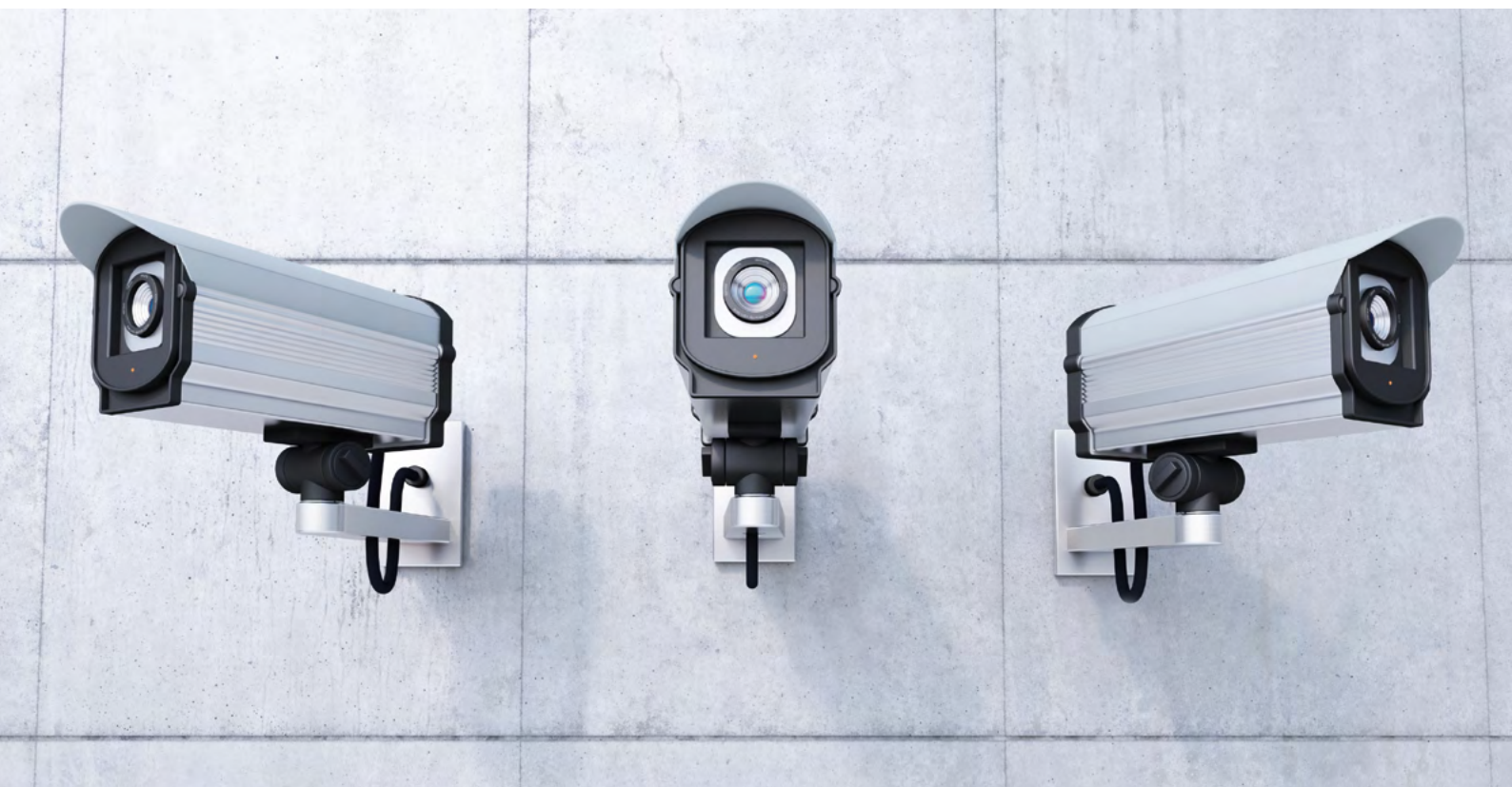


Video analytics: enabling safer environments and smarter business decisions



Protecting industries and environments with video analytics

Johnson Controls applies its core know-how in video solutions to help make points of entry, key facilities and goods more resistant to attacks and other threats. Our video solutions provide intelligent video analytics combined with fully automated video monitoring for comprehensive information while reducing the information influx for security personnel. This is innovative security at its best.

As threats to safety and security from burglary, sabotage, terrorism and economic uncertainty have increased, so has the need for organisations and governments to protect people, assets, public spaces and society's critical infrastructure. Johnson Controls delivers video analytics solutions across verticals. Transport and logistics, data centres, manufacturing, energy, healthcare; these industries are faced by some common challenges, but each has a unique set of demands. With over 130 years' experience, Johnson Controls protects them all.

Security and video surveillance can be resource intensive and time consuming. The ability to integrate a variety of different buildings and outdoor sites into an easy-to-manage system is of critical importance. Facilities under a common umbrella require that all security solutions are able to track people, vehicles and protected items, to monitor sensitive areas, safety fences and storage areas.

Video analytics solutions for proactive detection

Johnson Controls video analytics solutions improve security and information while easing the workload of security personnel. This helps them to watch less, but know more.

Video analytics solutions complete video surveillance systems with automatic real-time event detection, post-event analysis and extraction of statistical data. They provide our customers with intelligent video analytics and fully automated video monitoring, allowing them to become proactive users, while decreasing personnel costs and increasing the effectiveness of security operations.

There are multiple aspects to securing a facility and the goods it stores:

- ▶ Perimeter and site intrusion
- ▶ Preventing loss due to downtime or liability
- ▶ Protecting company and brand reputation
- ▶ Suspicious behaviour and activities
- ▶ Loitering at car parks and buildings



- ▶ Controlled access to sensitive areas
- ▶ Burglary
- ▶ Sabotage and espionage
- ▶ Blocked emergency lanes and exits
- ▶ Sensitive machinery or controls
- ▶ Personnel emergencies

Benefits for our customers

With video analytics solutions, our customers benefit from more efficient security operations and more effective asset protection. Johnson Control's complete packages offer many advantages for the customer:

- ▶ Smarter business decisions
- ▶ More information, less work
- ▶ Improved situational awareness
- ▶ Integration in other security solutions
- ▶ Proactive protection and prevention
- ▶ Fast crime detection
- ▶ Reliable perimeter protection
- ▶ Robust surveillance of storage and deliveries
- ▶ Better fraud prevention by coupling events to video images
- ▶ Reduced guard costs
- ▶ Simplicity, ease of use
- ▶ Protection of investment and intellectual property



Johnson Controls – the perfect partner

Who we are

Johnson Controls is a global, diversified, multi industrial leader serving a wide range of customers in more than 150 countries. We create intelligent buildings, energy efficient solutions, integrated fire and security systems, and video analytics solutions that work seamlessly together to deliver on the promise of smart cities and communities.

The merger of Johnson Controls and Tyco has established a new market leader that serves customers in all areas of the commercial and public sector. We bring together leading brands under one roof with a comprehensive portfolio of solutions for smart, secure and sustainable buildings. Our unrivalled spectrum of innovative products is complemented by expertise in installation, service and systems integration.

Johnson Controls delivers products, services and solutions that protect people, secure assets and lower operating costs in buildings for more than one million customers across the globe. We work with clients and suppliers around the world to design and implement solutions that deliver simplicity of operation, enhanced effectiveness and cost effective protection to customers everywhere.

We offer a comprehensive approach to creating and delivering safety and security solutions tailored to your specific needs, including fire and smoke detection, access control, video surveillance and analytics, perimeter protection, emergency response and master planning. We are a leading provider of equipment, controls and services for heating, ventilation, air-conditioning, refrigeration and security systems. And all of that expertise and knowledge is ready to help you.

Our Values

▶ Integrity first

We promise honesty and transparency. We uphold the highest standards of integrity and honour the commitments we make.

▶ Purpose led

We believe in doing well by holding ourselves accountable, by making the world a better place through the solutions we provide, our engagement in society, the way we do business and our commitment to protecting people and the environment.

▶ Customer driven

We win when our customers win. Our long-term strategic relationships provide unique insights and the ability to deliver exceptional customer experiences and solutions.

▶ Future focused

Our culture of innovation and continuous improvement drives us to solve today's challenges while constantly asking "what's next?"

▶ One team

We are one team, dedicated to working collaboratively to create purposeful solutions that propel the world forward.

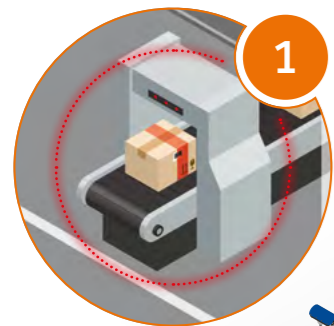
At its core, our promise is about delivering innovation that makes people's lives – and the world – better.

Video analytics at work

Protecting a warehouse with high-value goods

A 30,000 square metre warehouse with approximately 200 employees serving manufacturers, fashion retailers and online stores in Spain started to handle business for a high-tech manufacturer. The company approached Johnson Controls for an integrated security solution to cover all sensitive areas with access control, video surveillance and fire protection.

The facility's existing video surveillance system was mainly indoors and along the building and access control points at the entrance gate and inside the building. But now additional systems had to be installed that integrated the old systems while offering both time and cost efficiency. Protection against crime and espionage was a key criterion. Johnson Controls developed a solution that added important protection, integrated all security installations in a PSIM security management system and eased the workload of the security personnel.



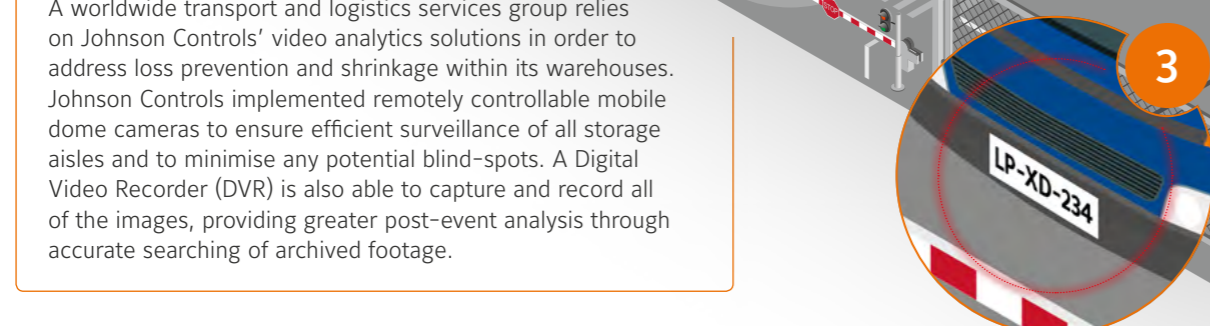
Parcel tracking



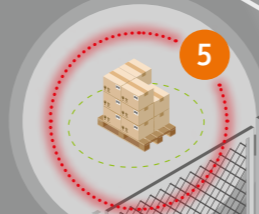
Loitering detection

International logistics provider

A worldwide transport and logistics services group relies on Johnson Controls' video analytics solutions in order to address loss prevention and shrinkage within its warehouses. Johnson Controls implemented remotely controllable mobile dome cameras to ensure efficient surveillance of all storage aisles and to minimise any potential blind-spots. A Digital Video Recorder (DVR) is also able to capture and record all of the images, providing greater post-event analysis through accurate searching of archived footage.



License plate recognition



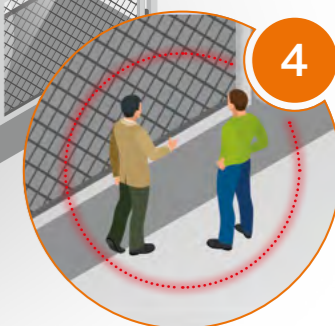
Left behind object identification

Data centre protection

Data volumes today are growing at a near exponential rate. Consequently, data centres have become critical components of the global economy. Johnson Controls has extensive experience operating hundreds of data centres and numerous other critical facilities worldwide. Data centres can be at remote locations and operate with a very small number of employees on site. Therefore, fully integrated enhanced video solutions are a vital part of their overall physical security, and the safety of the data housed within. Access control and alarm verification, facial and object recognition, thermal imaging, high definition camera surveillance with IP-based networking and remote management 24/7 are all essential pieces of the overall solution.



Emergency exit control



Perimeter protection

Protecting a chemical manufacturing site

A chemical company runs a large manufacturing site in Germany with 24/7 production. Its hazardous goods pose a potential threat to a densely populated area in the near vicinity. Potential terrorist attacks on the storage tanks, vandalism or malfunctioning appliances pose a risk for employees, local residents and the environment. Therefore, the company was looking for a solution that could integrate all of its security needs and help it manage the output with a special focus on our video analytics solutions.

With Johnson Controls' solution, the chemical company received proper perimeter protection together with improved situational awareness, including 24/7 protection and real-time verification of events. In addition, the video analytics solutions enabled the company to command and control the entire security system with fewer personnel.

A comprehensive solution range that delivers true customer benefits



Video analytics with fully automated monitoring

Video analytics can output real-time events and object data for video data mining or storage in a database. At the heart of the solutions are a range of cameras and recorders, which automatically analyse real-time events. After mining the data, they provide the operator with additional information on his/her screen or send it to data storage. Video analytics can be integrated into other security and information systems to create new opportunities.

Integrating data from other sources helps, for example, to track and protect cargo. Scan details of each item flow into the video analytics recorder so that items can be visually tracked if they have been lost. The system's independent server operation ensures high reliability and unlimited scalability.

Getting the most out of video analytics software today requires the best technology at the beginning of the security value chain. Johnson Controls offers standard video platforms and adds state-of-the-art video technology, such as highly efficient video recorders, analytics recorders or high resolution and thermal cameras.

Thermal cameras are an excellent complement to existing video surveillance installations as they expand the system's automatic video analytics capabilities. Thermal cameras not only outperform visual cameras in dark conditions, but are also a great tool for 24/7 surveillance, detecting people and objects in the pitch dark or in foggy conditions. They can trigger other devices and actions, such as sending an alarm to an operator, turning on flood lights, or triggering a regular camera to retrieve visual information on the incident. Ultra-high resolution cameras can enhance existing video installations, providing images to the highest detail and longer distances. Analytic solutions extended with automatic number plate recognition can automatically allow or reject access to vehicles arriving at entrance gates and car parks. For unattended delivery, the video analytics software includes a black/white list with remote monitoring. Video surveillance systems with video analytics enable real-time event verification and detect abnormal activity, such as opened or blocked emergency exits, injured or downed persons, loitering, lost cargo on motorways or stopped vehicles in emergency lanes, etc.

Our consultative approach offers all around video technology systems tailored to the customers' needs:

- ▶ Video surveillance
- ▶ (Various) Camera solutions optimized for the purpose of the observations
- ▶ Video analytics
- ▶ Integration with other security solutions, such as Access Control, Fire, etc.
- ▶ 24/7 monitoring
- ▶ Remote management & control

These advanced technological capabilities improve security significantly. Key areas addressed include:

- ▶ Motion detection
- ▶ Automatic licence plate recognition
- ▶ Integration of RFID tracking (parcels, cargo)
- ▶ Event notification
- ▶ Alarm verification
- ▶ Video guarding
- ▶ Object recognition
- ▶ Video surveillance as a service (VSaaS)
- ▶ Security for unattended deliveries



Reasons to choose Johnson Controls

1. One-stop-shop

With its globe-spanning portfolio of brands, products and services, Johnson Controls is a one-stop-shop for the three most important aspects of building and facilities management: comfort, safety and sustainability. Comfortable and safe working environments combined with greater energy efficiency mean companies can lower their operational costs, fulfil their responsibility to the environment and increase productivity from employees who feel safe, comfortable, secure and respected.

2. Credibility

We are a leader in multiple industries today, backed by 130+ years of experience. Our customer focus, combined with a globally diversified portfolio of technologies, products and services, has helped us form long-term relationships with customers in more than 150 countries. Certainly one of the keys to these longstanding relationships and our credibility, is a simple cost-benefit calculation: our customers save money over time. We deliver comfort, safety and sustainability, but also a provable return on customer investment.

We are with our customers every step of the way!

3. Customer focus

The key to our success is our tradition of customer-focused innovation; combining state-of-the-art technology with solutions that respond to our customers' specific needs. Our customers benefit not only from our long history, but from our long-term vision:

- ▶ Complete solutions that can be modified in response to changing environments
- ▶ Our commitment to a safe and sustainable future. Today our R&D facilities are working hard on next-generation technologies so that customers can continuously improve their systems and processes
- ▶ Unrivalled 24/7 customer service, including 12,000 engineers in 500 locations to assist locally and/or remotely

What you can expect from Johnson Controls:

- ▶ Stand-alone and/or holistic systems delivering greater efficiency and return on investment
- ▶ Fire, safety and security solutions that meet your unique industry requirements
- ▶ Protection of your assets, property, personnel and customers
- ▶ A dedicated partner providing ongoing support, wherever you need it, whenever you need it, through one single point of contact

Tyco is now Johnson Controls

The combined strengths of two great companies are now under one recognised brand, making Johnson Controls the world leader in integrated fire protection, security, HVAC, building controls and industrial refrigeration solutions.

About Johnson Controls' Building Technologies & Solutions

Johnson Controls' Building Technologies & Solutions is making the world safer, smarter and more sustainable; one building at a time. Our technology portfolio integrates every aspect of a building, whether security systems, energy management, fire suppression or HVAC, to ensure that we exceed customer expectations at all times. We operate in more than 150 countries through our unmatched network of branches and distribution channels, helping building owners, operators, engineers and contractors enhance the full lifecycle of any facility. Our arsenal of brands includes some of the most trusted names in the industry, such as Tyco®, YORK®, Metasys®, Sabroe®, ZETTLER®, Frick®, TOTAL and Sensormatic®.

