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Analytical System

About Us

Who We Are

The company LANTEC has been engaged in computer system integration and software integration into unified information solutions for over 23 years, as well as developing and creating its own analytical systems.

Mission

We provide Ukrainian companies and organizations with top-notch IT solutions and analytical centers to automate all aspects of society's activities.

Strategy

Implementation of the unified analytical system ULA Video to improve the quality of control and management in any sphere of people's lives, regardless of the scale or location.

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ULA Creation Story

The needs of the big cities have always been a driving force in the development of technologies, particularly in the domain of public safety.

ULA (Unified Lantec Analytics) system aims to shape a ground layer to get people safe and secure by adopting complex and strategic approaches, world technological achievements, broad involvement of regional and municipal authorities and the public in creating intelligent video surveillance systems.

Back in 2016 it was the initiative of the Donetsk regional police service to put the first bricks of the intellectual security concept. Since then, a small and cohesive team has been working to design a concept of a Unified Analytical Service Center (UASC), where ULA Video from LANTEC became an integral and core part of the unified analytical system.

**Місто
Маріуполь**

In 2016, a highly effective security program based on ULA VIDEO was implemented in Mariupol, in cooperation with the local police. Unfortunately, due to the military conflict and occupation of the city by the Russian army, the program had to be suspended.
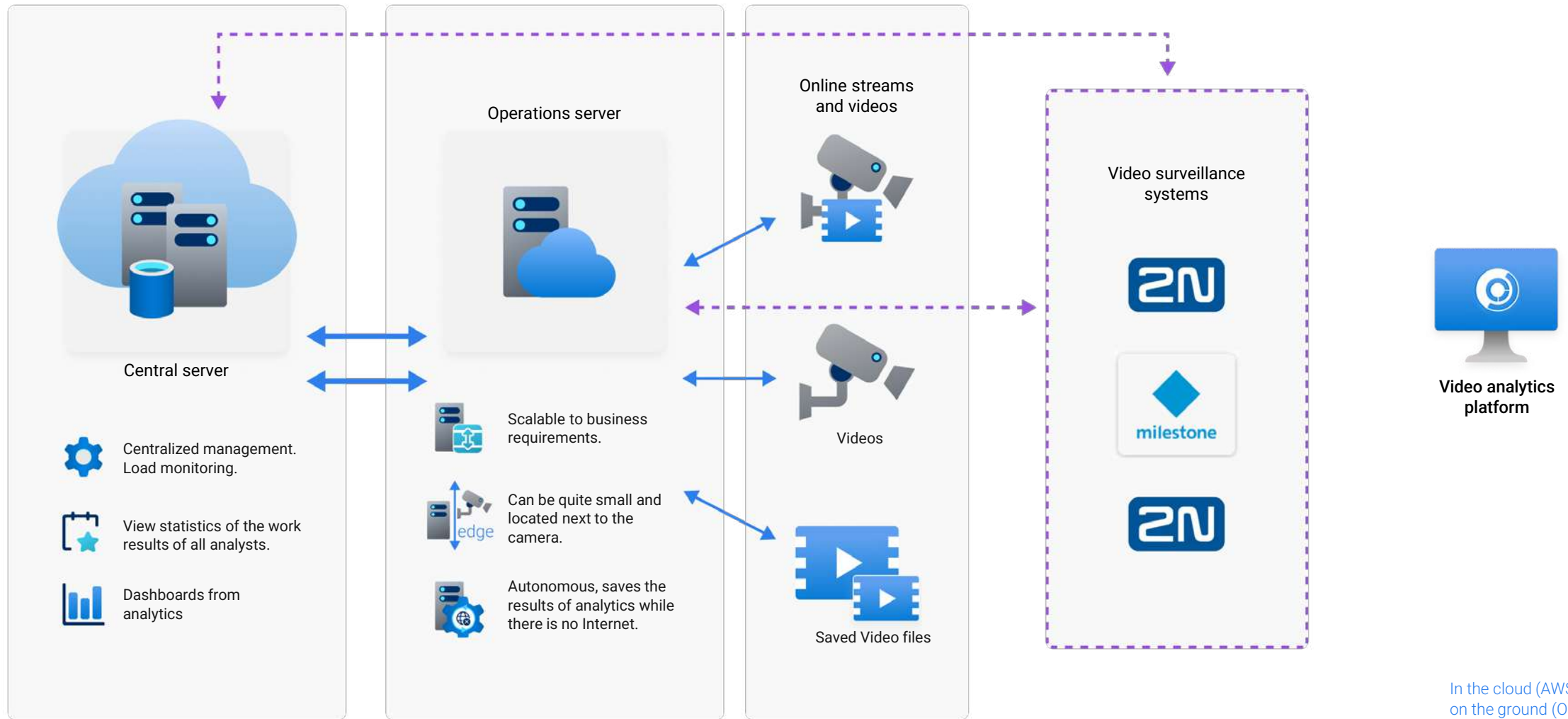

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What is ULA Video?

The ULA Video uses machine and computer vision pre-trained algorithms designed meet highly demandable routine, but complex business scenarios.

The analytical pipelines are capable to quickly and efficiently collection, evaluation, and analyze information obtained from thousands of different cameras, which can be located tens or hundreds of kilometers apart, as well as in remote areas.

Faces, vehicles, objects, as well as much more that comes within the field of view of video surveillance cameras is automatically converts into the valuable information presented in tables, dashboards, charts views or any other form of reports bringing additional insights into front of data.
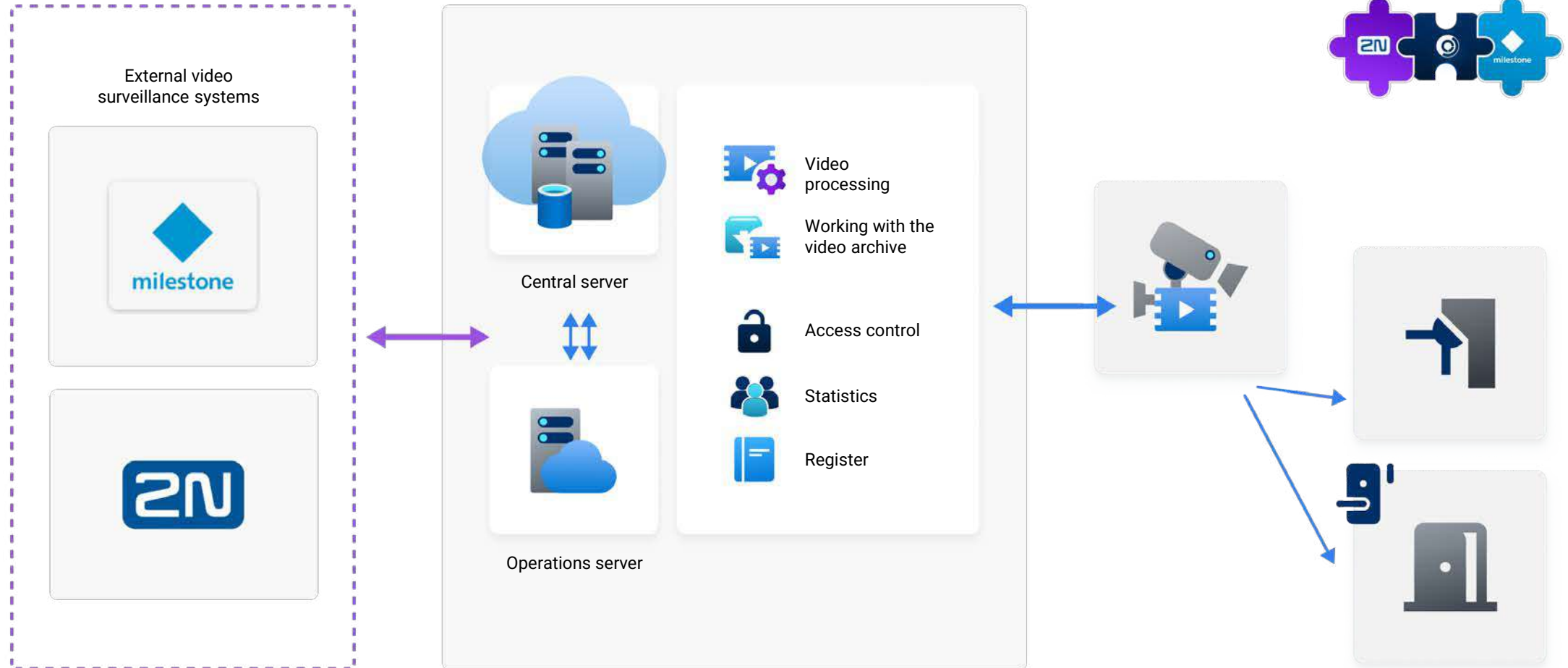

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ULA Architecture (distributed product architecture)

Central server

- Centralized management. Load monitoring.
- View statistics of the work results of all analysts.
- Dashboards from analytics

Operations server

- Scalable to business requirements.
- Can be quite small and located next to the camera.
- Autonomous, saves the results of analytics while there is no Internet.

Online streams and videos

Videos

Saved Video files

Video surveillance systems

2N

milestone

2N

Video analytics platform

In the cloud (AWS, Azure) or on the ground (On premise)

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ULA Architecture (integration with external access control systems)

External video surveillance systems

Central server

Operations server

Video processing

Working with the video archive

Access control

Statistics

Register

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Data presentation
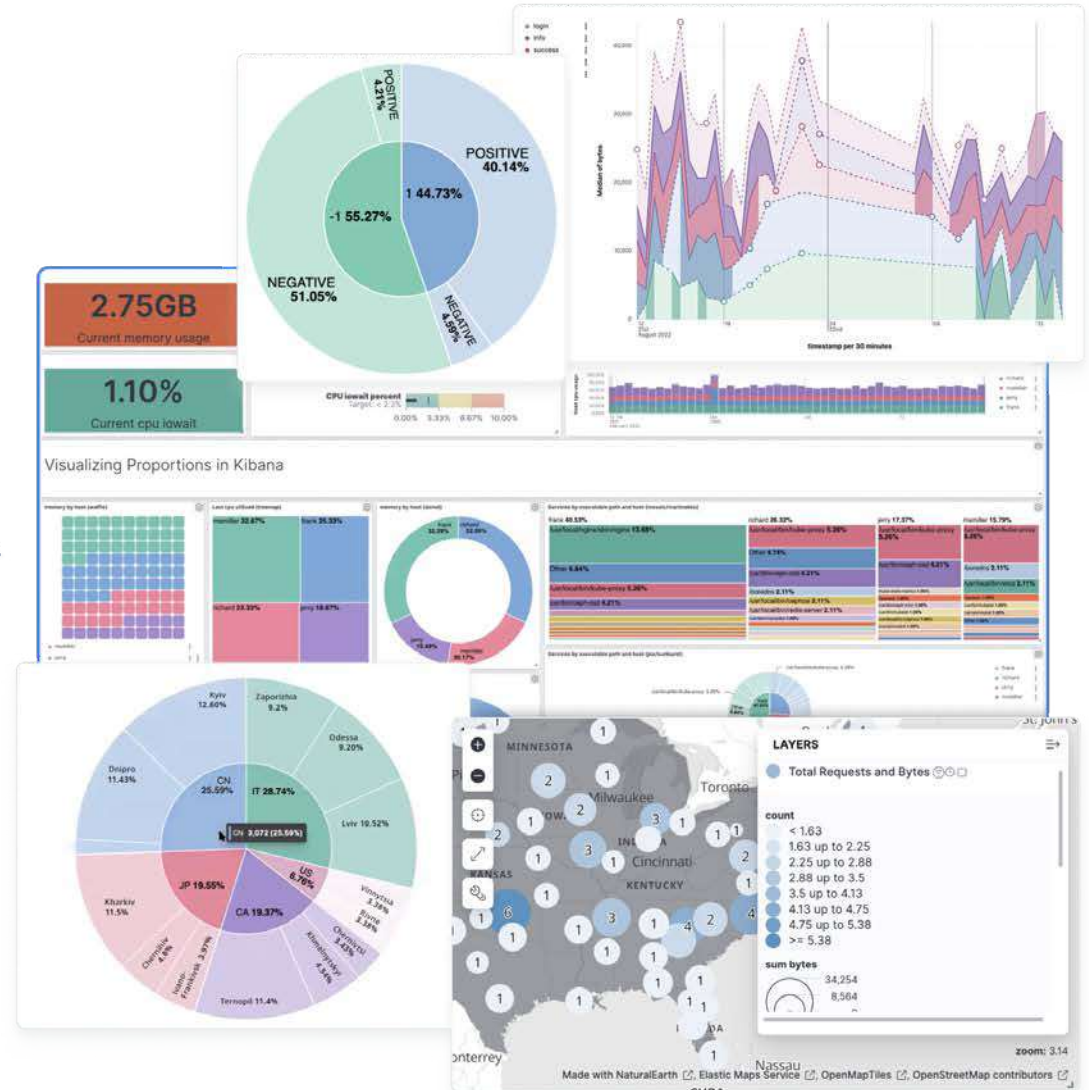
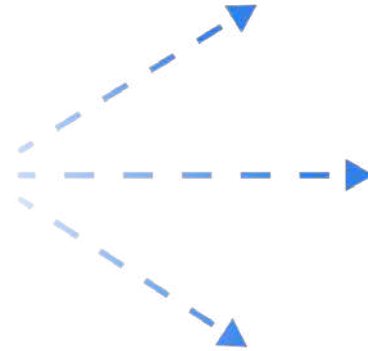The system aggregates and visualize post-processed video and metadata.

Real-time data visualizations, including customizable dashboards (widgets).

Display data in a variety of formats, including tables, charts, maps, etc

Upon requests new widgets could be introduced to meet customers' needs

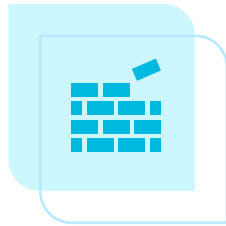# Fields of application of **ULA Video** automated video analytics

Retail and Marketing
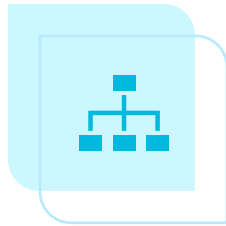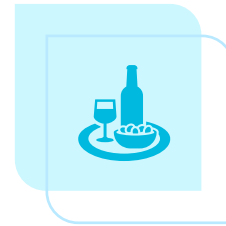
Security and Military Sectors
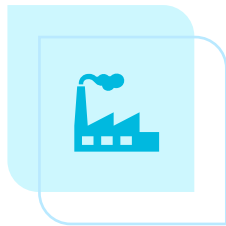
Education

Agriculture and farming

Construction

City Management

Service Industry

Housing and Utilities Sector

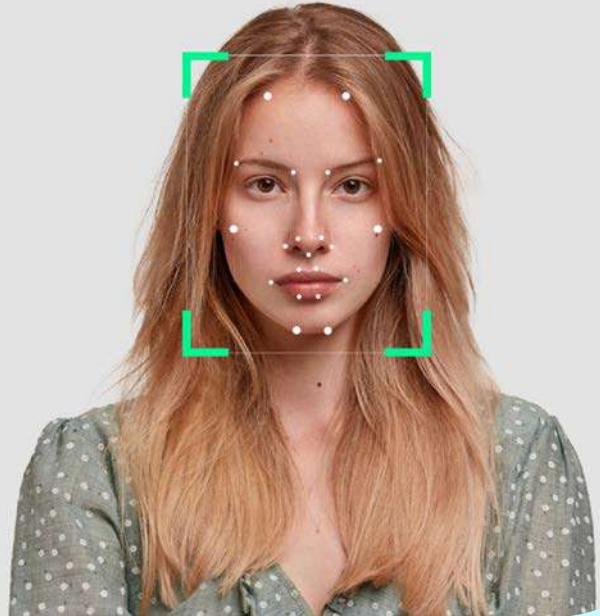Manufacturing

Financial and Insurance Sectors

Healthcare

Transportation and Logistics

ULA VIDEO

ULA Video for Persona analysis

Face recognition

Detection and recognition of people's faces in videos, including identifying gender and age group, emotions, appearance details, etc.

Behavior recognition

Detection of suspicious behavior in videos, such as theft of objects, children or adults, suspicious movement, suspicious actions, etc., which may indicate potential threats or unlawful activity.

Passenger flow analysis

Detection and analysis of passenger movement in videos in crowded places such as airports, train stations, shopping centers, etc., to analyze the number of people, determine popular routes, distribute passengers, create personalized advertising, improve marketing strategies, and increase sales.
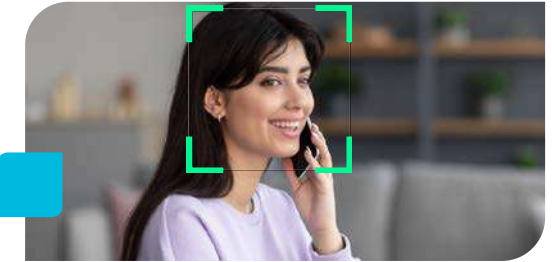

Access control

Facial recognition systems can be used to control access to buildings, offices, warehouses, and other premises. Instead of keys, cards, or passwords, systems can use facial recognition, which improves security and convenience for users.

Emotion analysis

Detection of mood, facial expressions, gestures, and other signs of emotional state, including alcohol or drug intoxication. This helps prevent conflict situations between people, early detection of potential incidents, and provides an understanding of the overall emotional state and mood of society.

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ULA Video for Vehicle identification

Analysis of objects' trajectory

Video analytics can analyze the trajectories of moving objects in video footage to obtain statistical information such as average speed, number of objects, traffic density, stops, turns, time intervals between objects, and more.

Incident detection

Detection of accidents, falls, sudden changes in the movement of objects in video, violation of traffic rules, and automatic notification or interaction with security or emergency services.

Vehicle analysis

Detection and analysis of characteristics of vehicles in video, such as make, model, colors, license plates, various aspects of movement such as speed, direction, vehicle type, and more.

Recognition of road signs

Detection and recognition of road signs in video, such as speed limit signs, prohibition signs, direction signs, and also detection of their absence or damage.

Traffic video analysis

Real-time tracking of traffic movement to optimize traffic management, improve road safety, and enhance overall infrastructure efficiency.

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ULA Video for Object recognition

Object absence detection

Detecting the absence of objects or activity in specified areas or for a certain amount of time, which can be useful for detecting loss of objects, unauthorized activity, signal loss, and more.

Object observation

Tracking specific objects or object categories in video to detect dangerous or unwanted objects, forgotten or stolen items, detection of static objects or certain activities such as falls or collisions, and for tracking prohibited items.

Object recognition

Recognition of objects such as protective gear (masks, shoes, helmets, etc.), weapons, cars, bicycles, license plates, vehicles, animals, various objects.

Object classification

Analytics can classify objects in video images based on their type, such as cars, trucks, motorcycles, or based on other attributes such as color, size, shape, etc.

Object search

Video analytics can perform object searches on video considering specified parameters such as color, shape, size, and other attributes, which can be useful for searching lost objects or analyzing past events, determining travel routes, tracking the duration of stays in certain areas, and more.

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Advantages

Ability to retrain

The ULA Video system can be trained to recognize specific objects, such as detecting various types of transportation vehicles and classifying them, as well as detecting and identifying different objects in infrastructure or people.

High accuracy of analytics

Improvement of object recognition quality, transport, or people based on repeated appearances in the frame on any camera connected to ULA Video.

Wide functionality

ULA Video can not only recognize objects but also analyze their actions, determine their behavior, size, shape, count the number of objects, allowing for various tasks related to security, monitoring, and process management.

Fast data processing

ULA Video has a high speed of processing offline and online video files and photos due to the use of modern technologies for processing large volumes of data.

Flexibility and scalability

ULA Video has a distributed two-level architecture that allows the system to be customized to the specific needs of the customer and scaled as needed.

Integration with other systems

ULA Video has the ability to integrate with any customer systems (video surveillance or access control systems) for business process automation or information exchange in "server-server" mode, which significantly speeds up data processing.

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Application areas

Automated data processing systems from video cameras are used in various fields of activity, such as:

Smart City

Situation Centers

Medicine & Insurance

Marketing & Retail

Housing & Communal Services

Security & Military Sector

Manufacturing & Construction

Transportation & Logistics

Education Sector

Systems can be adapted to specific customer needs and requests to obtain results that are necessary in each individual case.

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SMART CITY

ULA Video Analytics System uses expertise on the Internet of Things (IoT) and artificial intelligence to provide customized software and technical solutions that make cities more comfortable, modern, and secure.

We assist authorities in effectively managing urban spaces, making significant improvements in people's everyday lives, more efficiently planning and allocating resources for facility maintenance, reducing downtime, enhancing service quality, and increasing resident and utility user satisfaction.

Video analytics is highly efficient and can be applied in cities and communities of any size to solve a wide range of tasks.

Resource Management Optimization

Video analytics can be used to optimize the management of resources such as water and electricity within residential complexes and other municipal facilities. The analysis of video data can help identify potential resource losses, optimize their utilization, automatically detect violations of resource conservation rules, and take measures to prevent them.

Technical System Monitoring

Monitoring the condition of technical systems in residential and municipal infrastructure (lighting, ventilation, heating, water supply, and other engineering communications) is essential. The analysis of video data can automatically detect anomalies and warn of potential emergency situations such as leaks, fires, overheating, short circuits, and other technical issues. This enables prompt response and helps prevent significant accidents from occurring.
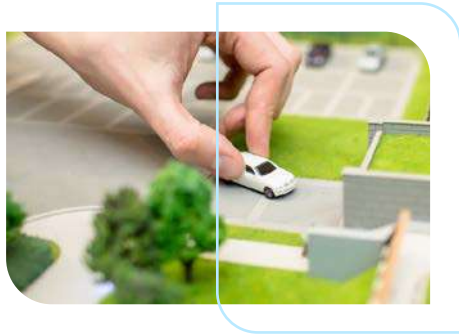
Traffic Management

Video analytics can be used for traffic management within residential complexes, municipal facilities, or an entire city. Video analysis can help optimize traffic management, detect traffic violations or emergencies, automatically recognize license plates, and monitor traffic flow.

Improving City Safety

Ensuring the safety of residential complexes, buildings, parking areas, and other municipal infrastructure objects is crucial. Video analytics can automatically detect suspicious behavior, such as unauthorized entry, vandalism, theft, and other crimes, and alert the appropriate authorities or individuals. It can also assist in facial and vehicles recognition, enabling access control and monitoring of visitors within residential and municipal facilities.

Facility Service Management

Facility service management involves managing the maintenance of municipal infrastructure objects such as waste bins, container sites, parking areas, lighting, and other installations found in residential complexes, city streets, and public spaces. Through the analysis of video data, decisions can be made to optimize the service management process. This includes planning waste collection based on current container fill levels, optimizing parking space utilization based on actual occupancy, monitoring the operation of lighting systems, and detecting malfunctions in real-time.

Infrastructure Condition Monitoring

Monitoring the condition of municipal infrastructure objects such as roads, bridges, parks, recreational areas, playgrounds, sidewalks, buildings, and other structures is essential. Video data analysis can help detect damages, deformations, wear and tear, and other infrastructure issues, enabling timely repairs and preventing potential emergencies.

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RETAIL INDUSTRY

The ULA Video is being implemented in retail and shopping centers to enhance security, improve customer service and satisfaction, and reduce operations expenses.

Prevention of Fraud and Theft

Video analytics helps identify fraudulent activities, such as theft of shopping carts from parking lots, scanning expensive items with the barcode of cheaper ones, walking out without paying for items, and providing incorrect quantities at self-checkout counters. This helps prevent losses for the store and protects against fraudulent activities.
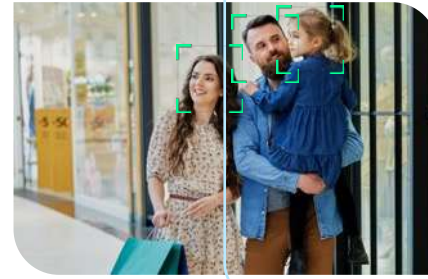
Creating Customer Profiles

With the help of an early detection video analytics system, it is possible to scan faces at the entrance to make personalized marketing offers at the right moment when a person is inside the store. This helps increase sales and overall store revenue.


Improving Marketing Effectiveness

The system helps analyze the age, gender, primary or repeat visits, and their frequency, as well as the presence or absence of companions, to provide more accurate and timely personalized offers and enhance the overall customer experience. This enriches the analytical data beyond transactional data and enables decision-making based on previously unavailable information.

Improving Store Security

Video processing systems assist in creating "blacklists" and provide information about the arrival of shoplifters, helping protect the store from theft and vandalism, reducing store losses, and preserving the integrity and safety of goods and equipment. Video analytics can also help prevent unpleasant incidents by detecting potential health issues or accidents, ensuring the safety of employees and customers.
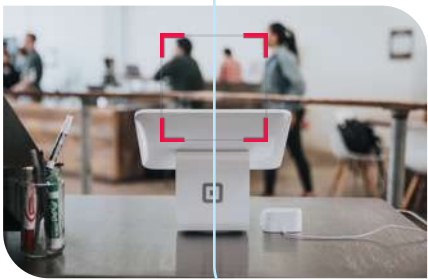
Analysis and Staff Monitoring

Analyzing staff performance and optimizing service processes can reduce waiting times in queues at shop windows and improve service quality. It helps monitor the actual working time of administrative staff, taking into account breaks and absences from their workstations.

Optimization of Inventory

Monitoring the level of inventory on shelves to quickly identify problematic areas that require additional attention: restocking perishable goods to the sales floor, replenishing items from the warehouse or freezer chambers, and placing orders with suppliers. Ensuring compliance with planograms.

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MILITARY SPHERE

Video analytics systems are essential in the military sector when a vast amount of diverse information from thousands of surveillance cameras, drones, and other sources needs to be processed and prioritize the most critical aspects within the shortest time frame.
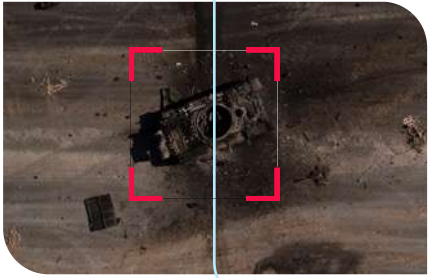
Video analytics is highly effective and can be applied to facilities of any scale and purpose to address a wide range of tasks.

Enemy Detection

The video analytics system is capable of detecting the presence of enemy forces, identifying their type and quantity, as well as determining their location, direction of movement, and any changes in behavior or tactics. It can also help in identifying preparations for an attack. By continuously monitoring and analyzing video data, military personnel can stay one step ahead of potential threats and enhance the overall security of their operations.

Hostilities Monitoring

Video analytics enables real-time analysis of data and monitoring of ongoing combat operations across different sectors of the front line. The system can provide situational awareness, detect and track movements of forces, identify potential threats or suspicious activities.

Damage Assessment

Video analytics can assist in assessing the damages incurred as a result of combat operations, including estimating human casualties, damage to equipment, or destruction of objects. This information is crucial for conducting post-conflict assessments, aiding in decision-making processes, and providing accurate reports on the damages incurred during military operations.

Enhancing Security

Video analytics plays a crucial role in increasing security levels by facilitating facial identification, searching for terrorists or traitors, controlling access to restricted areas, and detecting unauthorized intrusions into controlled territories. The system can promptly detect and alert responsible personnel to any suspicious or unauthorized activities, enabling timely response and mitigating security risks.

Terrain Reconnaissance

Video analytics systems can assist in terrain reconnaissance, such as assessing the suitability of an area for troop deployment or identifying hidden objects. By analyzing video data, the system can provide valuable insights into the terrain features and potential obstacles.

Military Training on Real Examples

Video analytics can be utilized for training military personnel by showcasing real-life examples of successful and unsuccessful tactics and strategies in various situations. Video analytics allows for in-depth analysis of military operations, including reconnaissance missions, urban combat scenarios, convoy operations, and more.

In general, video analytics in the military domain can help enhance the effectiveness of combat operations, improve the safety of military personnel, and reduce casualties.

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EDUCATION SPHERE

This software is being implemented to ensure student safety, enhance the quality of education, automate all processes, and reduce financial and human costs associated with internal monitoring.

Emotional State Analysis

Tracking students' emotional state during classes (when they are dissatisfied or distracted from the material) can help teachers identify effective ways to improve the learning process and increase students' engagement in their studies.
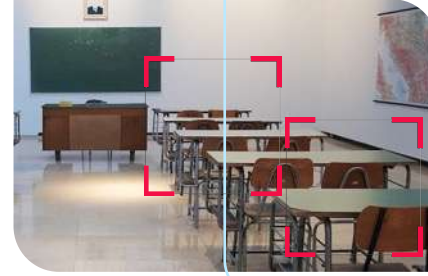

Attendance Management

Detecting attendance issues enables the quick identification of gaps and timely assistance to students who may be experiencing attendance problems.
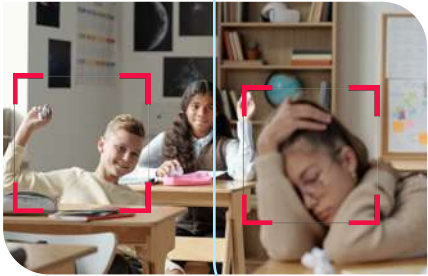

Discipline Improvement

Controlling discipline in educational institutions through the analysis of video materials from lessons and breaks can involve detecting rule violations, assessing students' activity levels, identifying problematic moments, and more. This data can be utilized to prevent conflicts, improve discipline, and enhance the effectiveness of the learning process.
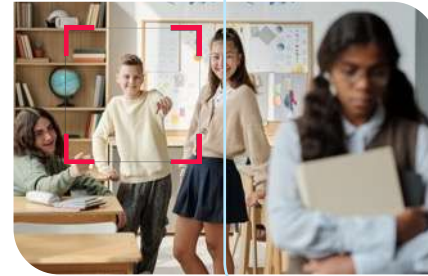

Enhancing Security Level

Tracking unauthorized individuals, undesirable behavior of students or staff, and recognizing conflict situations within the institution's premises with informing responsible personnel for restoring order.
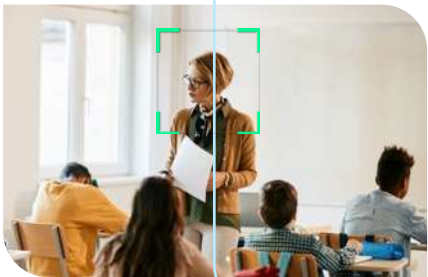
Staff Analysis and Control

Establishing individual performance indicators for teachers, analyzing lesson structures, evaluating the use of various teaching methods, interactions with students, effectiveness of instructional materials, scheduling planning, and monitoring actual working hours.
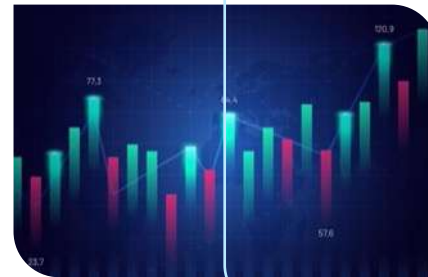
Management Process Optimization

Reducing the number of manual operations, preventing human error-related mistakes, having a comprehensive overview of all branches simultaneously in real-time to make informed decisions.

The use of video analytics in educational institutions can be beneficial in various dimensions, providing safety, enhancing the learning process, helping optimize expenses, and managing attendance.

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FINANCIAL SPHERE

This software is being implemented to ensure security, automate all processes, and reduce financial and human costs associated with internal process control.

Fraud Reduction

Automatically comparing customers' faces with photographs on documents such as passports or driver's licenses reduces the risks of identity misidentification.

Improving Service Quality

Optimizing workflow processes to enable prompt responses to queues at cash registers, non-standard situations, or violations.

Recognition of VIP Clients

Assessing the performance of staff and service provided to especially important clients to enhance loyalty to the company and prevent unfavorable situations.

Enhancing Security Level

Employee identification, access control to restricted areas, and detection of unauthorized intrusions significantly increase the level of security.

Analysis and Control of Staff Performance

Setting individual Key Performance Indicators (KPIs) for employees and evaluating their achievement, scheduling staff work shifts, and monitoring worked hours.

Management Process Optimization

Reducing the number of manual operations and having a comprehensive real-time overview of all branches simultaneously to make informed decisions.

Video analytics in the financial industry can enhance security, assist in risk management, improve customer service quality, ensure regulatory compliance, and optimize processes.

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CONSTRUCTION INDUSTRY

The ULA video analytics system is being implemented to ensure safety, enhance the efficiency of construction processes, and reduce costs associated with internal process control.
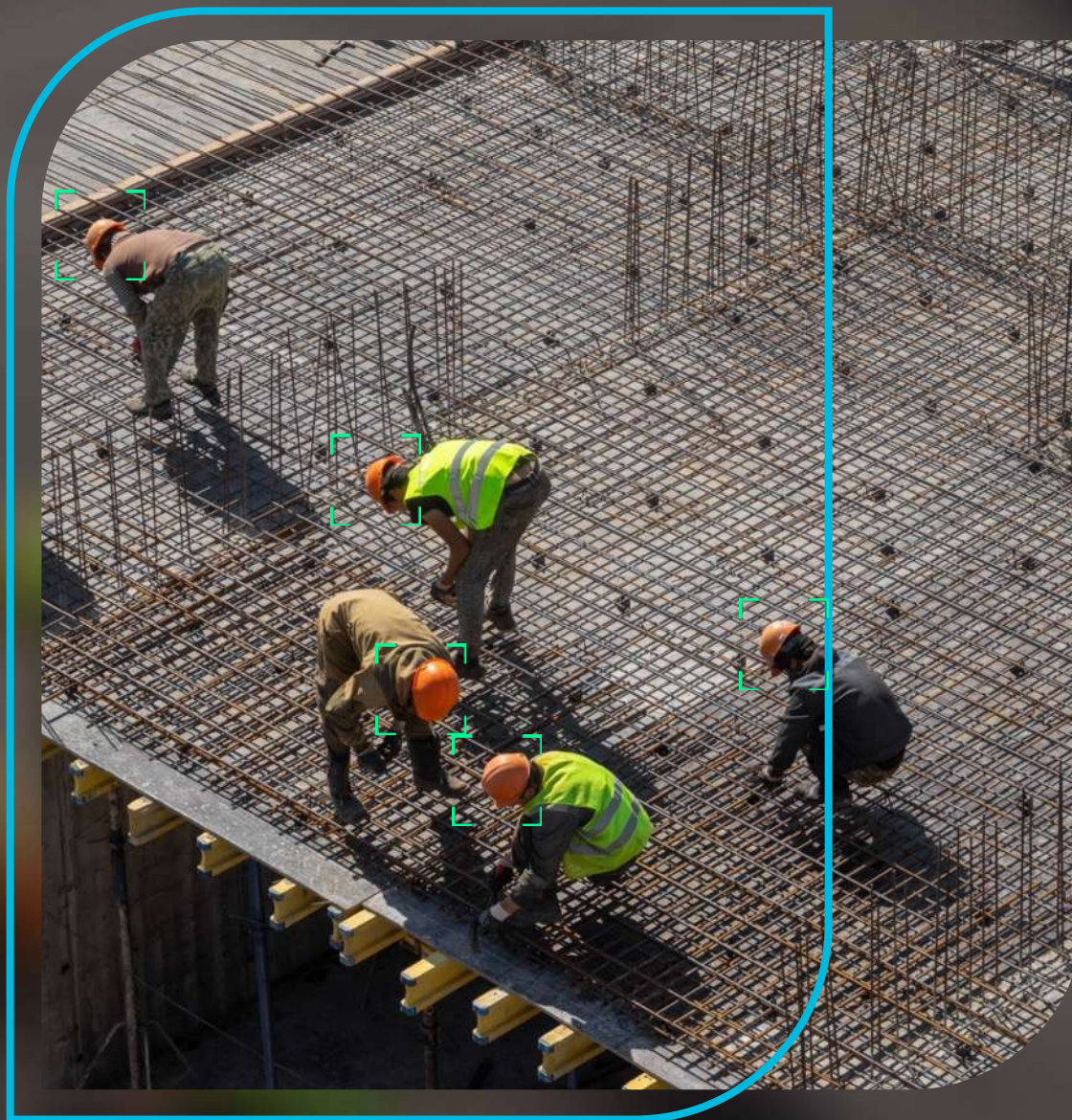
Monitoring Construction Processes

Video analytics allows real-time monitoring of construction site progress, detecting delays in processes, and identifying issues within the construction team's work.

Control of Construction Materials

Access control to materials and equipment on construction sites can help prevent theft or inefficient use and improve inventory management.

Quality Control

Video analysis can help identify deficiencies in the work of construction workers, non-compliance with construction regulations and standards, as well as assist in detecting defects on construction sites.

Enhancing Safety

Identification of workers, access control to construction sites, and detection of unauthorized entry of individuals or vehicles into protected areas. Detection of hazardous situations, such as falling objects.

Staff Monitoring

Monitoring the presence of mandatory safety equipment (helmets, footwear, and protective clothing), identifying violations of occupational safety rules. Automatic tracking of employees' working hours on the construction site for accurate payment and improved work quality.
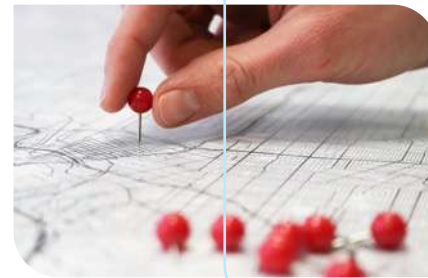

Optimization of Management Processes

Management of materials and equipment, real-time comprehensive overview of all construction sites for prompt decision-making.

Overall, video analytics in the construction industry can help improve work efficiency on construction sites, accelerate construction processes, reduce costs, and enhance construction quality.

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We look forward to a productive partnership

ULA Video is the ultimate solution for businesses across all industries, from international corporations to small enterprises and government institutions. If you are seeking a solution that aligns with your business needs, ULA Video is the answer you have been looking for.

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We have solutions for your business!

For more detailed information and to discuss specific solutions, please feel free to contact us by phone or email. We are eager to answer any questions you may have and provide you with the necessary information to help you make an informed decision.

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