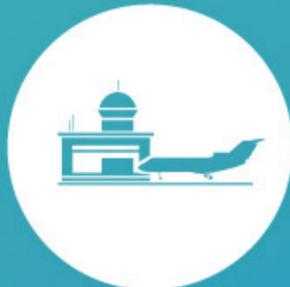
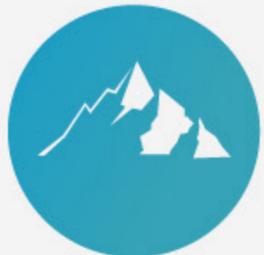


LOGIPIX

DEVELOPING & MANUFACTURING
INTELLIGENT VIDEO MONITORING SOLUTIONS

COMPANY PROFILE
2024



WELCOME TO OUR COMPANY

Logipix Technical Development Ltd. is a privately held company established in 1996 in Budapest, Hungary. Since then, Logipix has grown into an international company that is among the most innovative technological companies in the world. We are developing and manufacturing intelligent video monitoring solutions specifically for large-scale projects and wide areas.

Logipix believes, serving the needs of customers efficiently can only be successful if they receive complete solutions. In order to achieve this, we design and create all the critical components to our systems, including hardware, software and embedded computer vision. Our entire product range is developed and manufactured in Hungary in accordance with the highest quality requirements.

We are proud that we stand among the leading pioneers in this ever-evolving market. Our company is deeply engaged with the constant research and development to provide complete, intelligent solutions using the latest microelectronic and computer technology available, while considering the various characteristics of different application areas.

KEY FIGURES



branch offices
United States
India
Turkiye



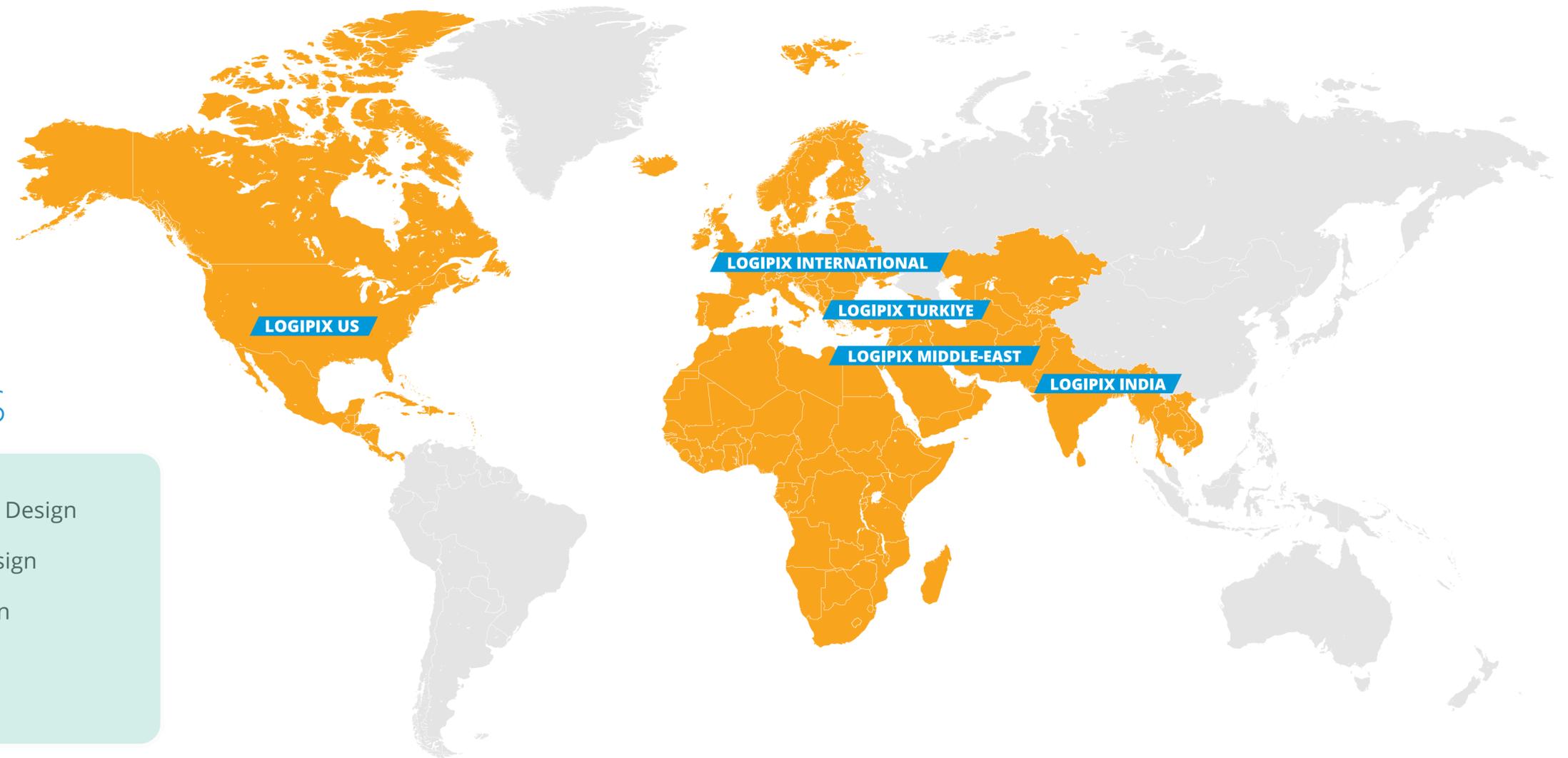
complete solutions



new panoramas in the past 2 years
3 Visible-light
Dual-vision
Thermal
Drone

ENGINEERING COMPETENCIES

- Mechanical and Thermal Design
- Artificial Intelligence and Video Content Analysis Development
- Embedded Software Development
- Application Software Development
- Electronics Design
- Optical Design
- Chip Design



CHOOSE RELIABILITY

CONSTANT PROGRESSION

Continuous expansion characterizes the journey of Logipix, both in terms of the company's global market presence and the number of industry-shaping technologies it has developed. Logipix began with access control systems, and today manufactures the most advanced surveillance sensor systems, whether visible-light, thermal imaging sensors, or 3D radar.

FROM CONCEPT TO CREATION

From the development phase of all components to manufacturing and factory acceptance tests, Logipix executes every step in-house. This centralized approach ensures precise control and coherence between components, resulting in stable and effective operations for large-scale systems.

SPECIFIC DEVELOPMENTS

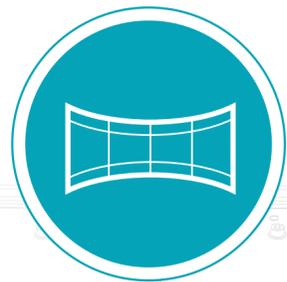
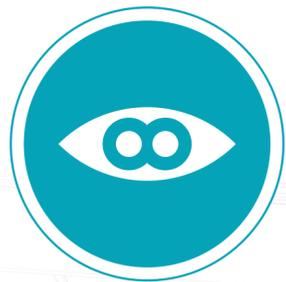
Our approach to develop tailored solutions starts with analyzing industry-specific needs and ends with delivering optimized systems. This results in focused responses to emerging problems, leveraging relevant knowledge into specific operational and financial benefits.



TECHNOLOGIES THAT MAKE US UNIQUE

PANORAMA TECHNOLOGY

Logipix has developed cutting-edge panoramic technology to improve video surveillance in vast areas. This technology delivers high-resolution panoramic images that enhance operators' spatial awareness by providing a continuous and coherent view, facilitating better visual orientation. The core of this innovation lies in the precise 3D geometric stitching of images captured by individual sensors, allowing Logipix to create versatile panorama solutions. These include various resolution and field-of-view (FOV) options, as well as customizable Virtual Panoramas composed of multiple high-resolution cameras. The system uses adaptable white balance and tone correction algorithms to smooth the transition across neighboring images. Synchronized imaging prevents issues like object duplication or hidden object anomalies near stitching borders, guaranteeing seamless and accurate panoramic visuals.



DUAL VISION

Logipix combines high-resolution visible-light and thermal sensors to provide comprehensive surveillance in all visibility conditions. By cross-mapping these sensors, the system extends its vision capabilities, effectively monitoring vast areas regardless of lighting or weather. The visible-light sensors capture detailed images, while the thermal sensors detect heat signatures, allowing the system to leverage the strengths of both technologies. This complementary approach ensures reliable and accurate monitoring, maximizing the capabilities of each sensor for enhanced security and situational awareness.

ARTIFICIAL INTELLIGENCE

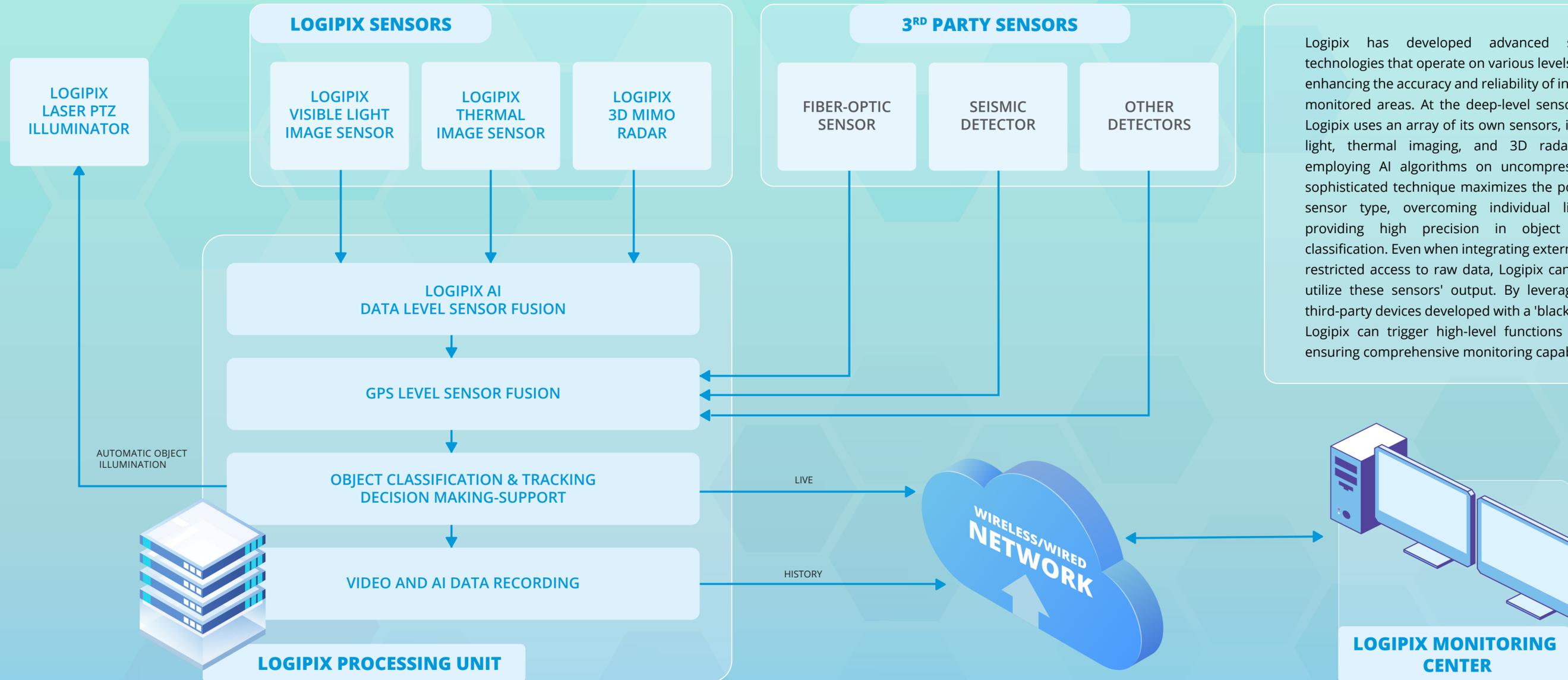
Logipix combines ultra-high-resolution panorama cameras with AI-powered computer vision technology to provide comprehensive surveillance of vast areas. The panoramic imaging captures detailed, expansive views, while the AI analyzes these scenes to detect, classify, and track objects in real-time. Logipix's edge AI technology utilizes algorithms that operate on uncompressed data, ensuring the highest level of accuracy and detail. This advanced technology can even recognize complex situations, offering a nuanced understanding of activities and events. By integrating cutting-edge imaging with intelligent analysis, Logipix ensures precise monitoring, elevated detection rates, and enhanced surveillance effectiveness.



AUGMENTED REALITY

Logipix utilizes Augmented Reality (AR) technology to enhance the visualization of AI-powered Video Content Analysis outcomes. By overlaying relevant information onto high-resolution images, AR highlights the most critical situations, helping operators quickly identify and respond to key events. This augmented data directs the operators' attention, ensuring that the most pertinent details are spotted on-screen. The incorporation of AR technology into the system enhances situational awareness and aids in swift decision-making by providing clear and immediate visual cues. These overlays enrich the visual content, making it easier for operators to assess and prioritize their actions effectively. This combination of high-resolution imagery with AR overlays ensures that operators can efficiently monitor and manage complex environments. The added layer of information not only provides a more comprehensive understanding of the scene but also streamlines the response process, enabling quicker and more accurate interventions in critical situations.

SENSOR FUSION



Logipix has developed advanced sensor fusion technologies that operate on various levels of data fusion, enhancing the accuracy and reliability of information from monitored areas. At the deep-level sensor fusion stage, Logipix uses an array of its own sensors, including visible light, thermal imaging, and 3D radar sensors. By employing AI algorithms on uncompressed data, this sophisticated technique maximizes the potential of each sensor type, overcoming individual limitations and providing high precision in object tracking and classification. Even when integrating external sensors with restricted access to raw data, Logipix can still effectively utilize these sensors' output. By leveraging data from third-party devices developed with a 'black box' approach, Logipix can trigger high-level functions with precision, ensuring comprehensive monitoring capabilities.

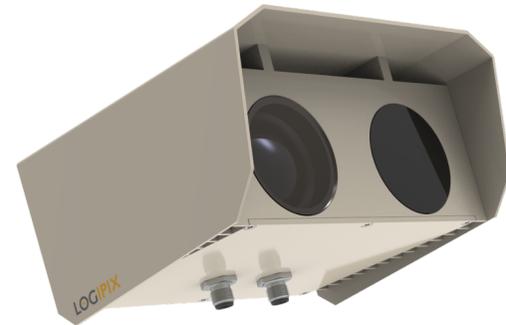
ADVANCED COMPONENTS FOR COMPLETE SOLUTIONS

PANORAMA CAMERAS



- 100-960 MP Visible Light Panorama Cameras
- Thermal Panorama Cameras
- Dual-Vision Panorama Cameras
- Vehicle-Mounted Visible Light, Thermal and Dual Vision Panorama Cameras
- Drone Panorama Cameras

SINGLE SENSOR CAMERAS



- Logipix 20 MP Bullet Cameras
- Logipix Thermal Bullet Cameras
- Logipix Dual-Vision Bullet Cameras
- Vehicle-Mounted Cameras
- Long-Range PTZ Cameras
- 2-6 MP PTZ Cameras

NETWORK VIDEO RECORDERS



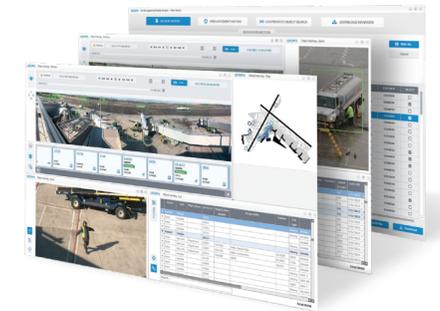
- 4th Generation Rack-Mount Network Video Recorder
- 4th Generation Outdoor Network Video Recorder
- 4th Generation Storage Extension
- Vehicle Network Video Recorder

ACCESSORIES

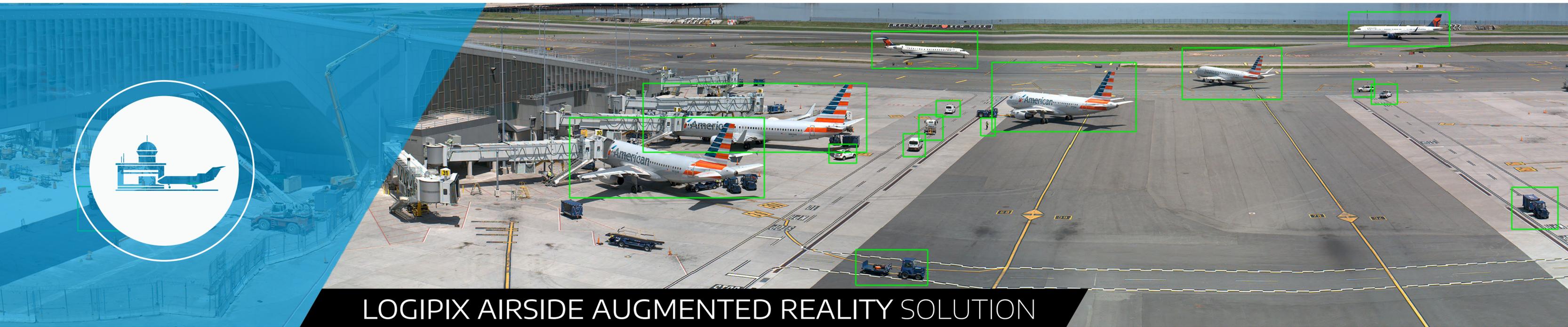


- IR & IR Laser Flashes
- Multilane 4D Radar
- 3D MIMO Radar
- Logipix Lenses
- Display for vehicle applications

SOFTWARE PACKAGES



- LAARS Software Package
- ARCS Software Package
- HIGS Software Package
- Command & Control Center
- Control Center Software Package
- Violation Management Software Package



LOGIPIX AIRSIDE AUGMENTED REALITY SOLUTION

The Logipix Airside Augmented Reality (LAARS) represents a significant breakthrough in airside monitoring Utilizing edge AI algorithms and high-end sensors, LAARS extends human vision increasing situational awareness. Its 300 MP resolution Panorama Cameras provide detailed, wide-area coverage from a single viewpoint. The system provides AI-powered Video Content Analysis and Augmented Reality, tracking and classifying thousands of objects, predicting proximity situations, detecting operational irregularities, foreign object debris (FOD), and monitoring glide paths. The system also includes incursion detection for enhanced safety. By automatically registering landings and take-offs and accurately calculating aircraft dwell times, LAARS offers valuable data for optimizing airport resource allocation and overall efficiency.

BENEFITS OF LAARS

- More secured and better organized airports
- High-resolution visual information of all airside areas in real-time and historical operational modes.
- Tracking and analyzing all object movements and generating alerts on violations and possible incidents.
- Supporting both short-term and long-term strategical decisions.
- Increased airport throughput.
- Less personnel is needed to monitor the entire airside area and keep all ground processes on track.

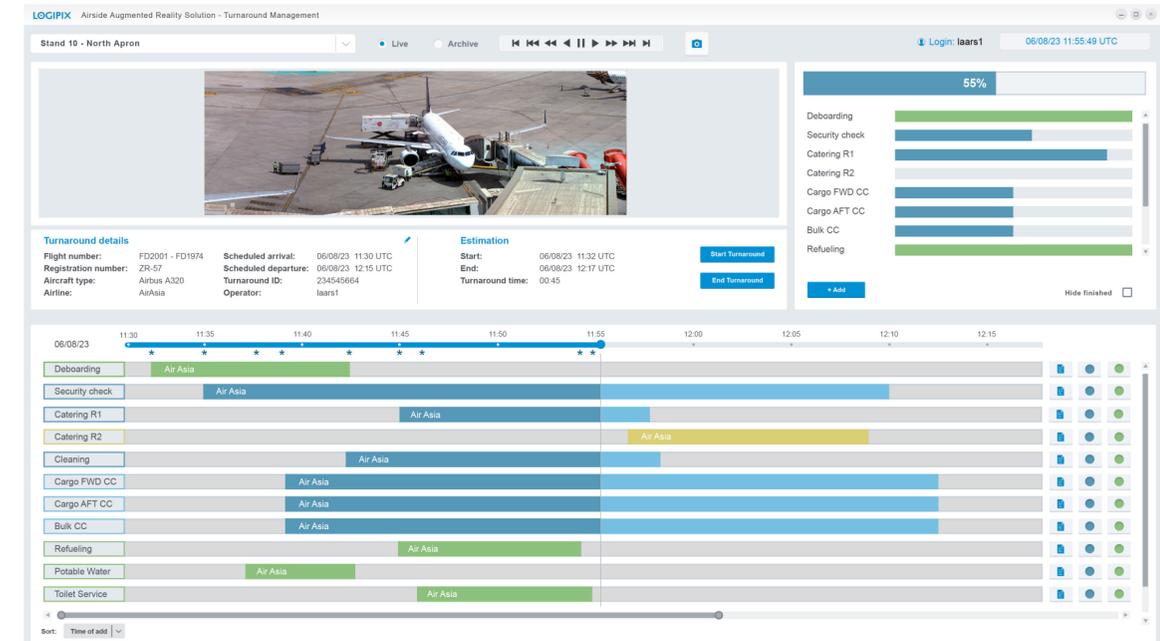
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Gone	Aircraft	Arrival	47068	N8312C	Southwest Airlines	WV937	B738 TWY 8
In motion	Vehicle		47155				Light Terminal
Gone	Vehicle		47204				Heavy Terminal
Gone	Aircraft	Arrival	47213	N8312C	Southwest Airlines	WV937	B738 TWY 3
Parked	Vehicle		47285				Light Airside
Gone	Vehicle		25948				Heavy TWY 1
Gone	Vehicle		25990				Light TWY 2
Gone	Vehicle		25967				Light Airside
Gone	Aircraft	Departure	25925	N302PQ	Delta connection	DL4936	CRJ9 TWY A
Gone	Aircraft	Departure	26013	N445YX	American Eagle	AA4347	E75L RWY 13
Gone	Vehicle		25993				Heavy TWY 5
Gone	Vehicle		26002				Light Airside
Gone	Aircraft		26013				Light TWY 4

LOGIPIX ADVANCED RAMP CONTROL SOLUTION

The Advanced Ramp Control Solution (ARCS) is designed to optimize airport turnarounds by providing a comprehensive, high-end video-based system for efficient turnaround management. It delivers continuous, multi-angle visual feedback of airplane stands with 20 MP single sensor or 300 MP panorama cameras and features a dedicated interface for efficient service registration, allowing fewer personnel to manage all stands seamlessly. By generating organized statistical datasets, ARCS helps identify bottlenecks and enhance turnaround times, ultimately improving overall efficiency.

BENEFITS OF ARCS

- High-resolution visual feedback of all stands.
- Quick overview and transparent color-coded schedule for daily flights.
- Automatic warnings and alerts for delays and time conflicts.
- Improved ground handling service registration both in real time and in historical modes.
- Enhanced stand occupancy optimization by providing statistical datasets.
- Accurate information for effective KPI calculations.





LOGIPIX DIGITAL TOWER VIDEO FOR ATC

The DTVA solution ensures comprehensive airside monitoring replicating the ATC tower window experience with extreme high-resolution panoramic cameras, offering a 360-degree view that surpasses the capabilities of the human eye, day or night. By delivering low-latency, real-time video streams, it supports swift decision-making in Digital, Emergency, Contingency, and Remote Towers. Advanced AI-powered Computer Vision detects, classifies, and analyzes object movements, while Augmented Reality enriches the user experience with additional visual information. With high-resolution visible-light and thermal cameras, DTVA monitors aircraft approach and alignment with the glide path, even in poor visibility conditions. It enables operators to make well-informed decisions, efficiently respond to emergencies, and coordinate activities.

BENEFITS OF DTVA

- DTVA offers high-resolution 360-degree view, replicating the perspective of traditional towers.
- Low-latency live video streams.
- Suitable for Digital, Emergency, Contingency, and Remote Towers, enhancing operational flexibility.
- Tracking and analyzing all object movements and generating alerts on violations and possible incidents.
- Advanced Computer Vision powered by edge AI.
- Thermal cameras ensure effective monitoring even in low-light or poor weather conditions.

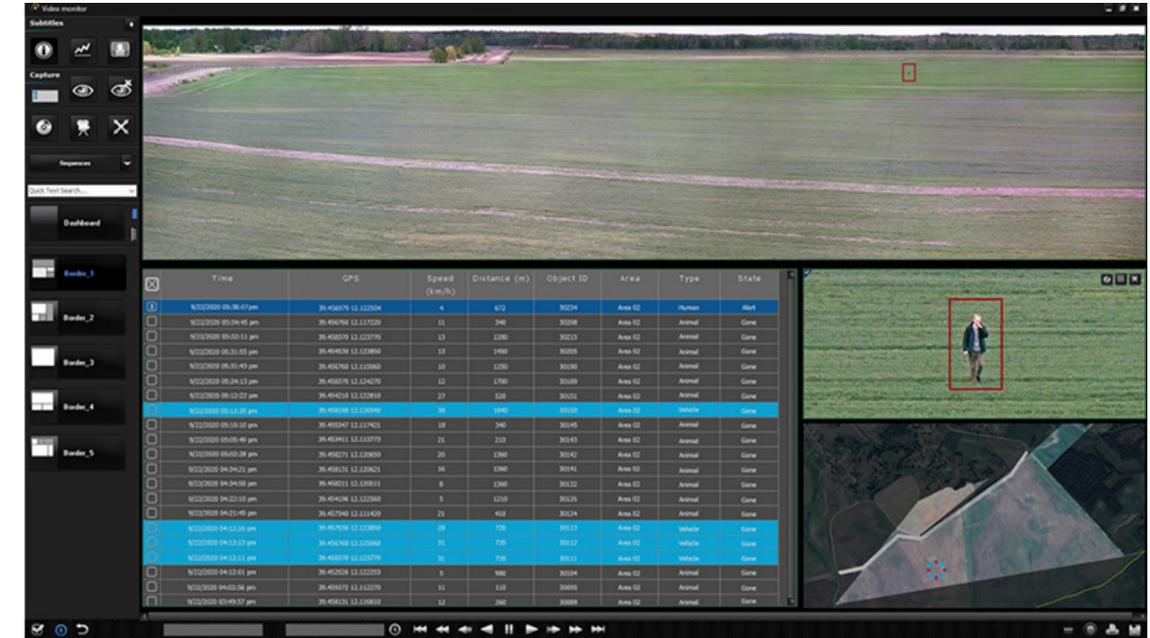


LOGIPIX BORDER SURVEILLANCE SOLUTION

BORS is an AI-powered surveillance system utilizing fused visible-light, thermal and 3rd-party sensors for precise target detection, tracking, and classification. With 320-960 MP Dual Vision Panorama Cameras, it provides high-resolution coverage of vast border areas in all lighting conditions. AI-driven Computer Vision identifies and tracks multiple objects, filtering out irrelevant ones. It delivers real-time geo-location data that helps guide patrol units effectively. BORS ensures exceptional image quality, accurate object recognition, and low false alarm rates, optimizing surveillance and decision-making processes.

BENEFITS OF BORS

- High-resolution coverage of vast areas with only a few Panorama Cameras.
- Automatic human detection from 3 kilometers away.
- Cross-mapped visible-light and thermal imaging for exceptional detection rates day and night.
- Data-level sensor fusion with Logipix sensors, GPS-level sensor fusion with external sensors.
- Accurate real-time pinpointing of alarm positions.
- Hardware components are designed to withstand even extreme harsh environments.



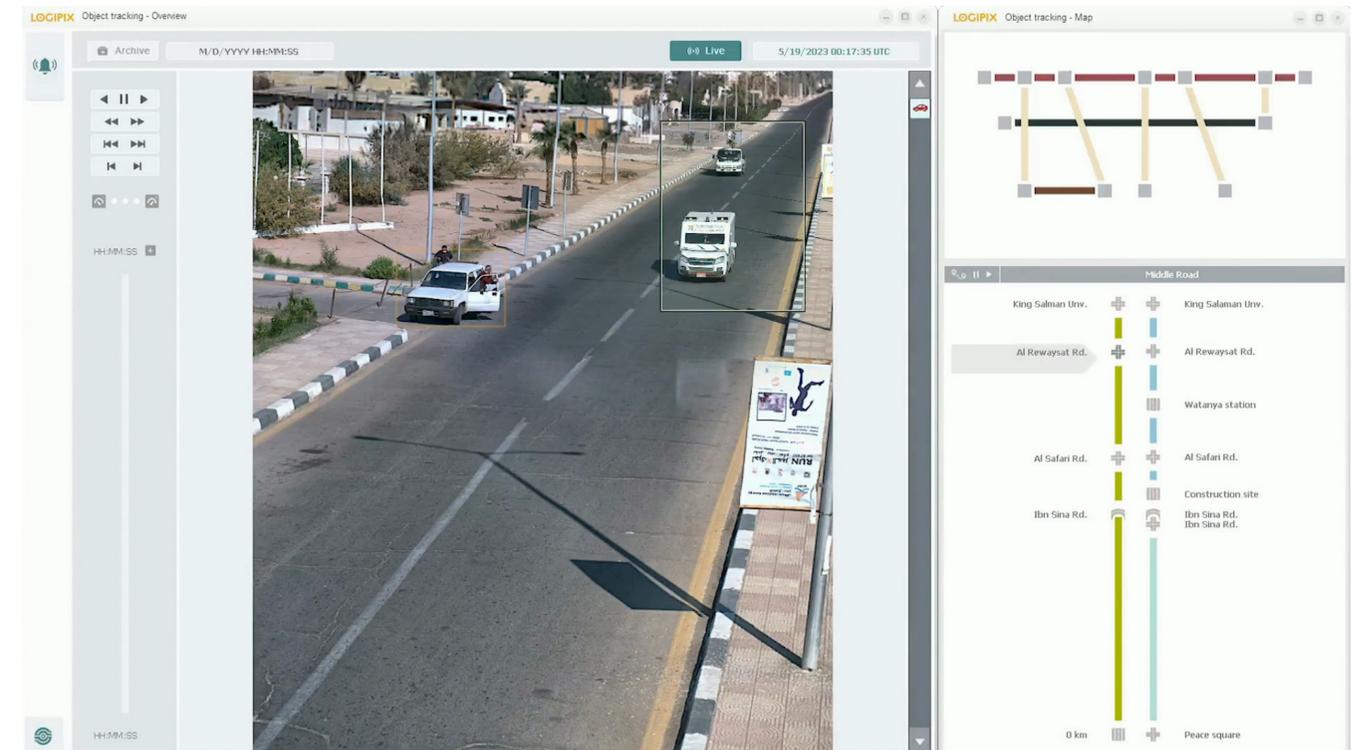


LOGIPIX HIGHWAY SURVEILLANCE SOLUTION

The Logipix Highway Surveillance Solution revolutionizes highway monitoring with advanced AI technology and high-resolution panoramic cameras. Each Panorama camera covers a 1 km section, enabling automatic object tracking and motion behavior analysis. This facilitates rapid emergency response, helps guide patrol units, and assists police work. High-resolution video streams support real-time decision-making and historical incident investigations. The AI detects unsafe activities such as speeding and unauthorized stopping, optimizing traffic flow and improving road safety. Additionally, the system offers remotely controlled virtual patrol tours using the images of 100-320 MP cameras, enhancing efficiency and cost-effectiveness. This innovative solution ensures comprehensive, effective highway surveillance and protection.

BENEFITS OF HIGS

- Enhanced highway visibility for operators.
- Increased situational awareness by providing advanced alert and automatic zoom functions.
- Far less operators are needed and less patrol units are sufficient to be on the road physically.
- Reliable visual evidence of any occurred incident or accident.
- Interactive schematic map for easy image navigation.
- Virtual Patrol Tour function significantly reduces highway maintenance and operational costs.



LOGIPIX DRIVER VISION ENHANCEMENT SYSTEM

The Logipix Driver Vision Enhancement Solution (DVES) enhances vehicle crew visibility with a 360° field of view using high-resolution visible light and thermal cameras. Crews can zoom in on distant objects for critical information, with humans verifiable up to 400 meters. The system includes robust hardware like cameras, mobile NVRs and a tactical display, all designed to withstand extreme conditions. DVES ensures exceptional image quality in all lighting conditions and features advanced fail-safe recording and display capabilities, maximizing image resolution for effective mission execution.

BENEFITS OF TAARS

- High-resolution imagery and optional AI detection significantly improve situational awareness.
- High-end visible light and thermal sensors provide enhanced vision in various lighting conditions.
- Informed decision-making in real-time or during post-mission analysis.
- Operation in diverse environments, including adverse weather, ensuring continuous operations.
- Reliability ensured by robust design and high MTBF.
- Comprehensive hardware and software product line.

Mission data	Date	Time	GPS	Speed (km/h)	Distance (m)	Alarm ID	Type	Zone	State
ID: R1844	03.21.2019	17:29:10	46.63512, 19.13813	14	1200	ID4356	vehicle	1350	alarm
Lat: 46.604936	03.21.2019	17:28:52	46.63922, 19.14008	0	750	ID4357	animal	1350	rejected
Lon: 19.057375	03.21.2019	17:28:52	46.63922, 19.14007	0	750	ID4358	animal	1350	rejected
Alt: 384 m	03.21.2019	17:28:13	46.63636, 19.14024	3	1000	ID4359	human	1351	alarm
Time: 6:32:27 am	03.21.2019	17:28:11	46.62571, 19.14220	4	2250	ID4360	human	1352	alarm
Date: 03/21/19	03.21.2019	17:22:02	46.64231, 19.12737	2	350	ID4361	human	1353	alarm
Mission ID: HJ045445									
Mission start: 03/21/19 1:55 am									
Mission end: 03/21/19 8:00 pm									





LOGIPIX CRITICAL INFRASTRUCTURE SURVEILLANCE SOLUTION

Logipix Critical Infrastructure Surveillance Solution (CIIS) enhances security with advanced multi-sensor technology. This AI-powered system integrates visible-light and thermal video surveillance completed by radar and third-party sensors to detect and localize threats and guide patrol units effectively. CIIS offers high-resolution, 24/7 visual monitoring and automatic movement analysis, ensuring perimeter and internal area security. It maximizes alarm efficiency, facilitates verification times by automatically zooming in on alert spots, and provides irrefutable visual evidence for investigations. With edge AI and 3D MIMO radars, CIIS detects threats up to 3 km away and supports real-time decision-making, optimizing security resources and enhancing resilience against emerging threats.

BENEFITS OF CIIS

- Comprehensive coverage by various types of sensors.
- Fused information from multiple sensors to highlight potential threats and enhance operator effectiveness.
- Advanced perimeter protection, effective filtration for irrelevant detections.
- Hardware components are designed to withstand even extrem environmental conditions.
- High-end sensors with maximized life span.
- Self-cleaning and deicing systems minimize the need for frequent human maintenance.

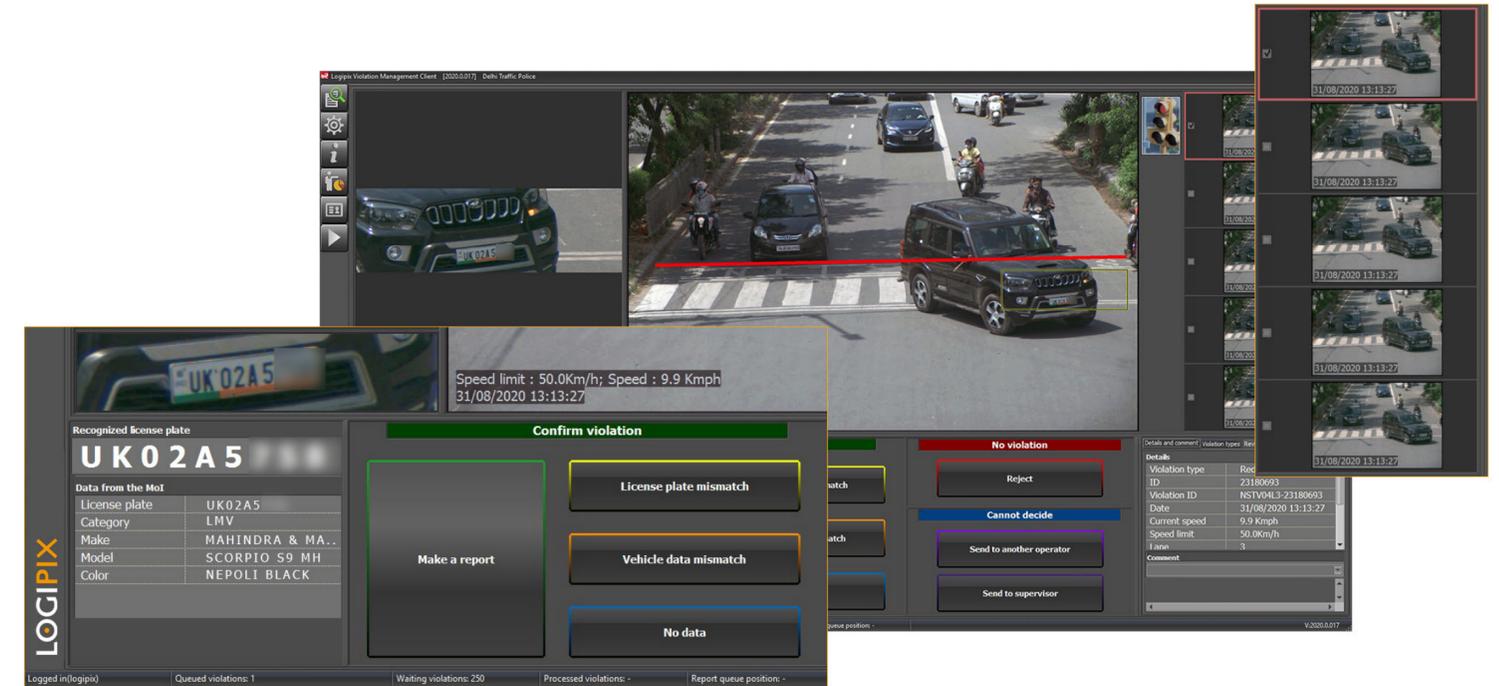


LOGIPIX TRAFFIC VIOLATION DETECTION SOLUTION

The Logipix Traffic Violation Detection Solution (VIDE) utilizes AI-powered algorithms, advanced illumination, high-end cameras, and sophisticated software to detect and manage traffic violations accurately. Covering up to three lanes simultaneously, the system features automatic license plate recognition and sensor fusion technology for high-precision detection. VIDE automates the entire workflow, from detecting violations and collecting vehicle data to generating comprehensive reports for authorities, requiring manual intervention only for verification, thus maximizing efficiency in processing violations.

BENEFITS OF VIDE

- Single cameras cover multiple lanes, detecting violations even in high-density traffic.
- Sensor Fusion Technology delivers the highest accuracy in traffic violation detection.
- Detecting multiple types of violations simultaneously.
- Proper illumination for reflective and non-reflective license plates.
- Automated operational workflow from violation detection to compiling complete violation packages
- Streamlined violation verification process.



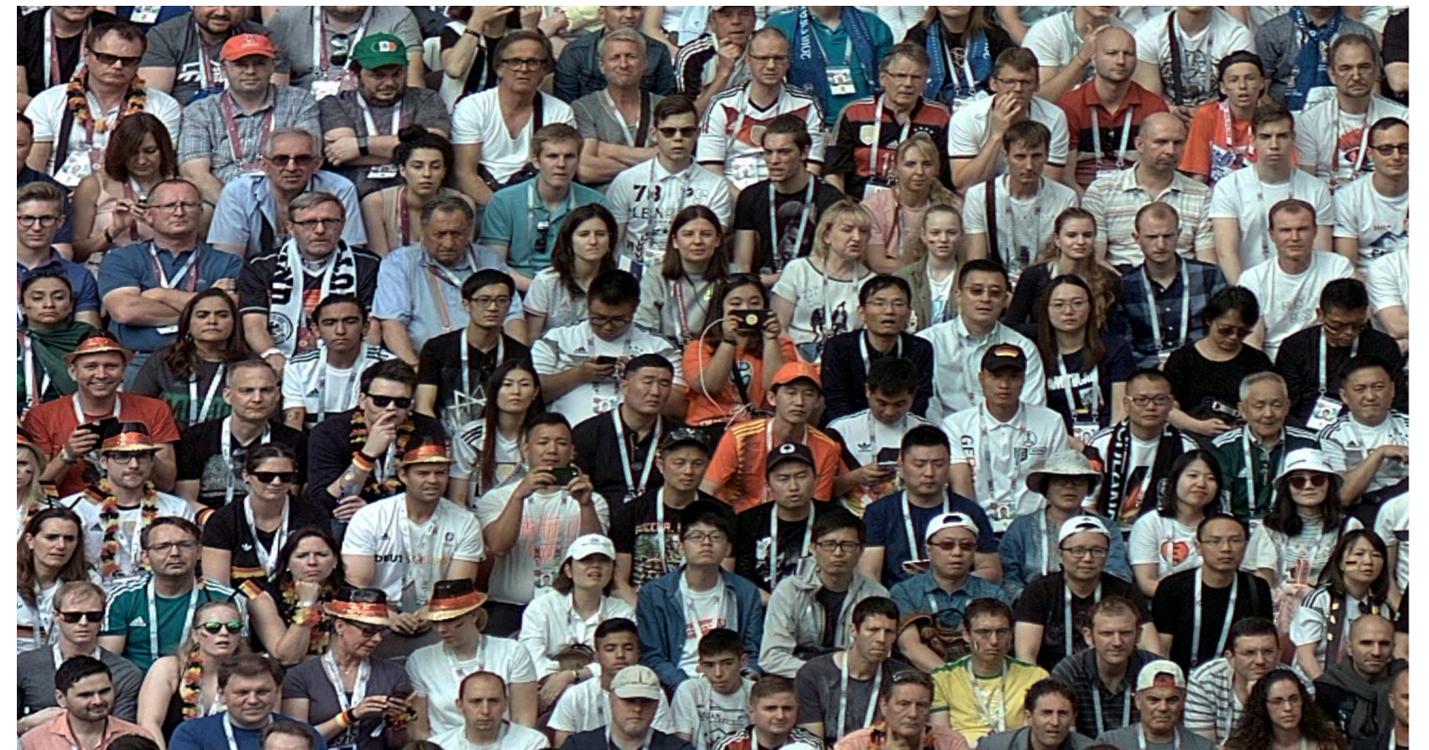


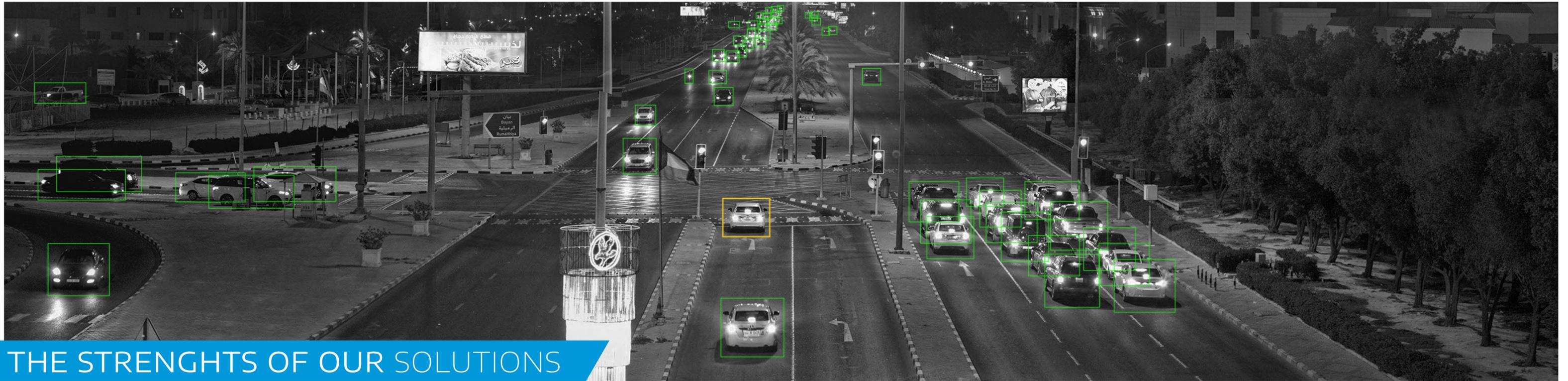
LOGIPIX STADIUM VIDEO SURVEILLANCE SOLUTION

The Logipix Stadium Video Surveillance Solution ensures comprehensive security before, during, and after events by providing high-resolution coverage of the entire seating area with just a few 120-300 MP Virtual Panorama Cameras. The system offers a resolution level high enough to identify all spectators in and around the venue. Advanced digital and PTZ zoom functions allows operators to quickly select areas of interest on the panoramic image and seamlessly track individuals. The adaptable camera structure easily accommodates any stadium environment and future expansions, while overcoming environmental challenges like hazy weather and lens flares. With Logipix, stadiums can achieve unparalleled security, ensuring a safer environment for all attendees.

BENEFITS OF STAS

- STAS provides a cohesive view of the entire seating area offering comprehensive spatial awareness.
- 250-400 ppm resolution ensures allows the accurate identification of spectators in the venue.
- Continuous, high-res recording of all stadium seats.
- Quick incident investigation, irrefutable visual evidence
- Easily structurable and reconfigurable camera arrangement.
- Remote monitoring, multiple stadium management





THE STRENGTHS OF OUR SOLUTIONS

OPERATIONAL BENEFITS

- Logipix solutions are designed to meet the specific requirements of various application areas.
- We develop high-resolution thermal cameras and panorama cameras with hundreds of megapixels and high fps to provide the best video quality available on the market.
- The Logipix Panorama Cameras can replace dozens of 4K CCTV cameras, ensure transparent monitor profiles, and enhance spatial orientation for operators within the monitored area.
- Logipix's advanced edge AI and sensor fusion technologies enhance video surveillance, making it more efficient and automated, leading to swift decision making.
- The Logipix systems highlight the most relevant situations on the User Interface using Augmented Reality. Smart display functions guide the focus of operators.
- Our devices are developed and manufactured to operate with high MTBF even in extreme outdoor environments.

FINANCIAL BENEFITS

- The Logipix end-to-end solutions can accomplish more with fewer resources.
- While the upfront cost of a high-end Logipix Panorama camera may be higher than that of a conventional camera, the overall system cost is significantly lower. This is because fewer cameras are needed to cover the same area, reducing installation, infrastructure, maintenance, and operational expenses.
- Logipix engineers develop cutting-edge technologies that ensure our systems avoid both physical and technological obsolescence for an extended period.
- All our components are developed and manufactured in the EU to the highest quality standards.
- Logipix has developed a comprehensive remote maintenance system that facilitates both preventive and corrective maintenance.
- Physical maintenance is also effortless, as the high-end Logipix components feature a self-cleaning system. Cleaning procedures can be scheduled and initiated automatically.

Learn more at www.logipix.com