

AI Based Selective Monitoring System

The AI Based Selective Monitoring System utilizes CCTV video analysis to distinguish objects, people, accidents, and disasters, enabling direct and indirect surveillance support.

By leveraging AI-based recognition technology, the system can identify facilities, individuals, and vehicles within CCTV footage. This allows for real-time detection of safety incidents and crimes, significantly improving monitoring efficiency.



▲ The system analyzes CCTV footage, recognizing and categorizing spaces, objects, and individuals.

Issues to Tackle

- ☑ Limited increase in surveillance personnel compared to the growing number of CCTV cameras leads to blind spots in safety and law enforcement, reducing response efficiency.
- ☑ Manual monitoring delays in detecting incidents and accidents due to the sequential rotation of CCTV footage.

Expected Benefits

- ☑ Automated monitoring focuses only on CCTV footage with detected incidents, allowing expanded surveillance coverage with optimized personnel despite continuous CCTV growth.
- ☑ Rapid incident monitoring minimizes response time, protecting lives and property.
- ☑ Ensures stable monitoring operations even during personnel transitions.

💡 Key Services

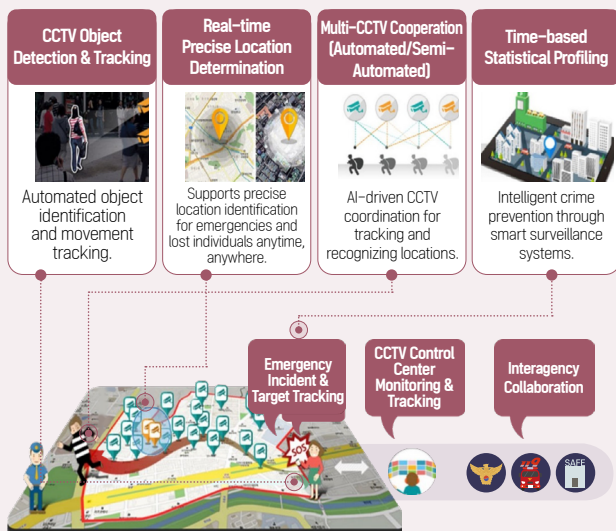
- Real-time monitoring of spaces, objects, and people, with automatic detection of critical events requiring response.
 - General Sector: Loitering, trespassing, abandonment, fights, arson, collapses, falls, drowning detection, and missing person searches.
 - Safety Sector: Traffic accidents, fire detection, crimes, public safety (dementia patients, nursing home security), suicides, and infectious disease monitoring.
- Tracking people and vehicles across multiple CCTV feeds to trace movement patterns.

⚙️ Use Cases

- Seoul announced a plan to upgrade approximately 160,000 CCTV cameras across parks, hiking trails, and public spaces to AI-powered intelligent surveillance by 2026 to enhance public safety.
- Incheon aims to mandate the installation of intelligent CCTV systems from 2025 to reinforce disaster surveillance, increasing adoption rates to 20% by 2028 through a phased transition.
- Osan, Gyeonggi Province, initially had one operator monitoring 500 CCTV cameras, but after adopting an AI-based selective monitoring system in 2022, four operators now manage 2,200 cameras, significantly improving monitoring efficiency.
- As part of South Korea's K-City Network Program, supported by the Ministry of Land, Infrastructure, and Transport, an AI-driven real-time object classification, traffic analysis, and hazard detection system was deployed in An Duong District, Hai Phong City, Vietnam (2023).

Key Components

Configuration



Key Services

Safety & Crime Analysis

The AI-powered Crime Prevention CCTV and Intelligent Selective Surveillance System automatically detects crime signs and alerts authorities to prevent violent crimes.



Key Technologies

1. Deep Learning-Based Object Detection

- Uses AI technology to detect vehicles, pedestrians, and motorcycles and classify vehicle types and colors.

2. Event & Behavior Pattern Recognition

- Detects events through pedestrian behavior analysis (intrusion, loitering, fighting, collapse) and vehicle violations (wrong-way driving, lane violations, centerline crossing).

3. Object Tracking

- Tracks detected people, vehicles, and event information based on multi-keyword trajectory analysis.

4. Privacy Anonymization

- Ensures privacy protection by anonymizing faces, license plates, and sensitive areas in video footage.

5. High-Speed Search

- Quickly locates objects in stored video footage (e.g., 10 minutes for 100 hours of video, 6 seconds for 1-hour footage).

Application Service

Intelligent Smoke and Fire Analysis

- To compensate for the limitations of existing fire detection sensors, intelligent CCTV video analysis is used to identify fire outbreaks inside and outside buildings, gas leaks, and other emergency situations, enabling proactive disaster prevention and response.



- The intelligent surveillance system, trained with wildfire-related data, uses high-resolution cameras to analyze fire flames and smoke conditions, supporting rapid wildfire detection and response by utilizing fire prediction models.

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