

ESEN



E-**Matris-L**

LAND BASED WIDE AREA SURVEILLANCE
SYSTEM

www.esensi.com.tr

The Land-Based Wide Area Surveillance System (EMatris-L) offers real-time, continuous monitoring over extremely large areas—comparable to an entire city—enabling a persistent, uninterrupted surveillance.

System Overview

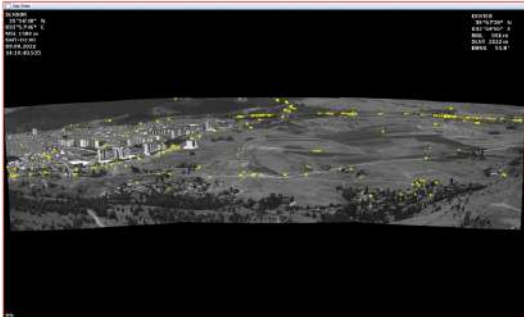
Multiple high resolution camera sensors, advanced image processing capabilities, and a robust communication infrastructure, EMatris-L empowers operators to detect, track, and analyze dynamic ground activity across wide areas, both day and night.

Utilizing Wide Area Motion Imagery (WAMI) technology, the system detects and tracks moving targets, calculates the precise coordinates of all detected targets, and presents real time visual data within a 3D Geographic Information System (GIS).

EMatris-L automatically generates alerts based on predefined alarm zones, records events, and stores captured data for up to one month. These records can be queried, fetched and replayed.

The system also produces multiple independent high-resolution sub-images (chip-outs) from the area of interest for a detailed analysis, while still continuing to monitor the whole area of interest. In addition, when a motion is detected, the integrated Pan-Tilt-Zoom (PTZ) camera is automatically cued to the target location to capture close-up, high-resolution full motion video of the potential threat.

These advanced capabilities of EMatris-L, enables surveillance coverage that is hundreds of times larger than conventional systems, allows detection of subtle movements typically missed by traditional methods, and supports simultaneous tracking of up to 2000 individual targets across the monitored area.



Applications

- Border surveillance and illegal crossing detection
- Critical infrastructure protection
- Military base perimeter security
- Counter-terrorism and early warning systems
- Disaster response and situational awareness
- Post-event forensic analysis

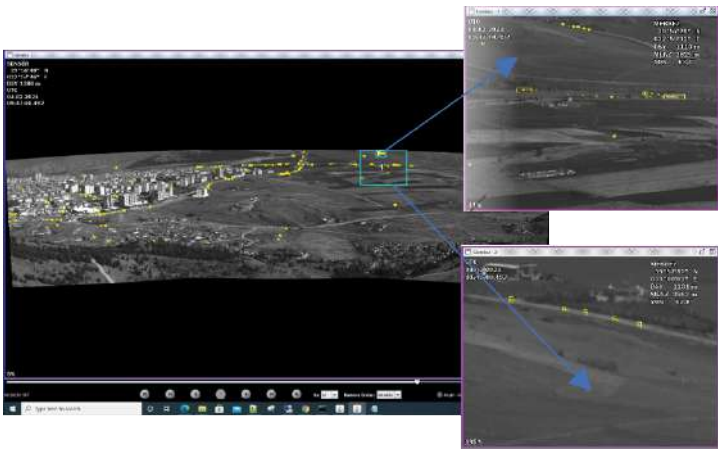
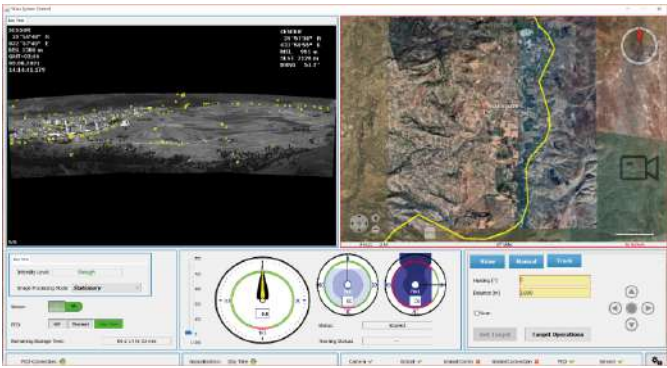
Key Features

- High-resolution EO/IR (Electro-Optical/Infared) imaging systems
- Multi-camera stitching and geospatial overlay
- Automated motion detection and tracking
- Embedded recording and real-time streaming
- Remote operation
- Modular architecture for scalable deployments



Core Capabilities

- Real-Time Detection and Tracking
 - Detect and monitor moving targets with precise location information.
 - Calculate the coordinates and velocity of the targets.
- Multi-Target Focus with High-Resolution Imaging
 - Monitor multiple areas of interest simultaneously with high-resolution chip-out images.
 - Each chip-out features independent zoom and pan capabilities for seamless target tracking and monitoring at high resolution..
- Actionable Intelligence for Smart Decision Making
 - Gain critical insights through optimized resource utilization, allowing faster and more informed decision making.
- Advanced Analytics for Maximum Control
 - Access powerfull analysis tools both live and offline with real time and archived image data
 - Features include advanced search capabilities, replay functions, and more
- Pan-Tit-Zoom Cueing
 - Provides the coordinates of the selected target to PTZ camera to obtain a higher resolution full motion video of the target, enhancing situational understanding and decision-making.
- Proactive Security with Intelligent Alerts
 - Define custom alarm zones and receive instant warnings, ensuring rapid response to potential threats.
 - Automatic alert generation based on motion
- Continuous operation with minimal operator input.
- Storing the captured images and these recordings can be queried based on various criteria and replayed.
- Seamless integration with Command and Control (C2) systems and existing surveillance infrastructure.



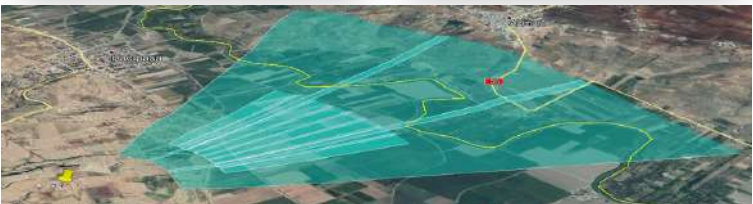
Technical Specifications*

Day Time

- 76° FOV
- 10,6 km² instantaneously
- Max Tracking Range 4 km.
- Scanning ±180°
- 50 km² via scanning

Thermal

- 43° FOV
- 1,5 km² instantaneously
- Max Tracking Range 2 km.
- Scanning ±180°
- 12,5 km² via scanning



*Configurable as customer needs

Parameter	Specification
Sensor Types	EO LWIR Pan-Tilt-Zoom Cameras
Tracking Capacity	>2000 simultaneous targets
Power Supply	220V AC /Generator
Network Interface	Gigabit Ethernet/Secure Wireless
Data Storage	Up to 30 days
Operting Temperature	-20°C to +55°C
System Deployment	Fixed/Mobile/Tactical

eMatrix-L

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