

The logo for ESSEN, featuring a stylized 'E' with a green and blue gradient, followed by the word 'SEN' in a dark blue, sans-serif font.

ESSEN



ESSEN Matrix-A

AIRBORNE WIDE AREA SURVEILLANCE SYSTEM

www.esensi.com.tr

Airborne Wide Area Surveillance System

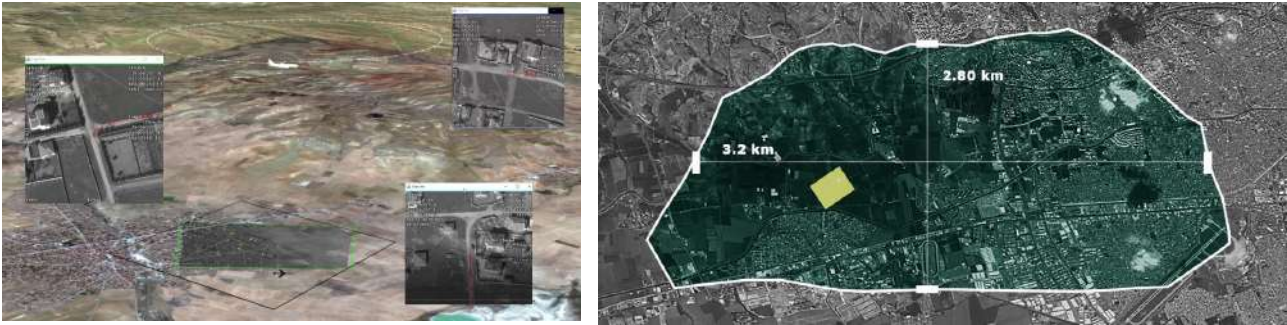
Esen Wide Area Surveillance System (AWAS) provides continuous real time surveillance from an aerial platform. Compared to traditional aerial surveillance systems, it can display up to 100 times of the area at a comparable resolution.

System Overview

Airborne Real-Time Processing Capabilities*	•Moving target detection like vehicles and humans •Vehicle tracking •Vehicle dismount detection •Proven high performance over a variety of terrain ranging from urban to mountainous •More than 3000 simultaneous detections/tracks •Ortho-rectification •Better than 30 meters geo-registration accuracy •Lossless on-board imagery and data recording •Live feed of areas of interest (chip-out) •Live feed of all metadata and detection/tracking results •Simultaneous dissemination of up to 30 live chip-outs via data link dependent on bandwidth allocation •Seek, pause, search and replay during flight
Voverage Area/ Ground Sampling Distance**	•EO Solution: 5 km² coverage/ 21 cm GSD @ 18.000 ft •EO+IR Solution •EO: 4.5 km² coverage / 21cm GSD @ 18.000 ft •IR: 1.5 km² coverage / 33cm GSD @18.000 ft
Data Link	•Interoperability with common bi-directional data link systems(typically 2-40 Mbit/s) •Optionally, 8 Mbit/s 200km range, L/S/C band data link system

* All software is developed inhouse. Any customization per new operational needs can be performed.

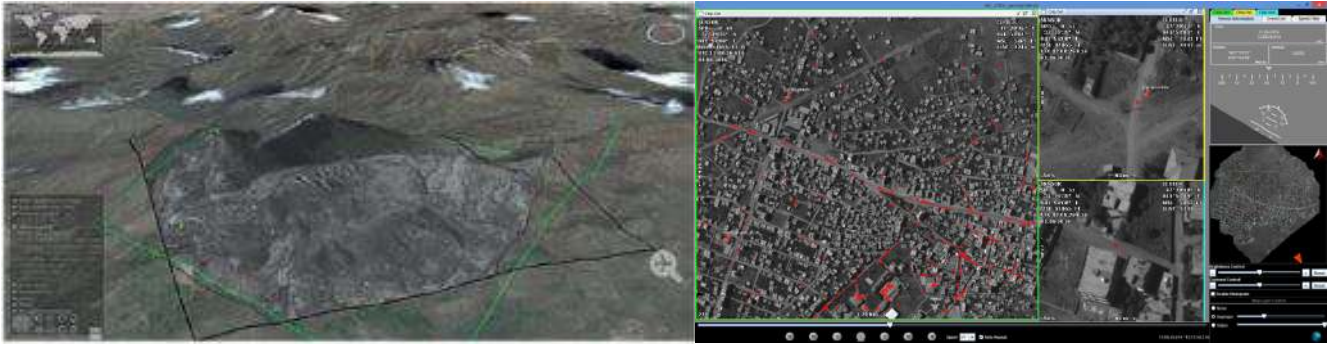
** Coverage area and ground sampling distance can be customized with different lens options and adapted to different mission altitudes.



Visualization, Control and Analysis

Data Management	•Petabyte level scalable storage of imagery, metadata and tracking result •Indexing, compression and data aging •Authentication and authorization-based access control
Dissemination	•Dissemination of imagery and tracking result through wide area networks and satellite to remote locations •Multi-client dissemination support
System Control	•Camera system control •Real time update of PED Unit exploitation parameters •Monitoring health status of airborne units
Real-Time Wide Area Motion Imagery Display	•Operator interface supports multiple simultaneous chipouts, each with independent zoom and pan, track information display and target tracking •Track information and track history display •Play back of on-board recorded data during flight •User annotation features •Presentation of wide area motion imagery and trck information on 3-D Geographical Information System (GIS) to create enhanced situational awareness •FLIR cueing and display of FLIR imagery
Analysis	•Search archived images by location, time and track information •Replay at different speeds and perform forensic analysis •Show track history, seek to time of a history point, seek to first action in any area •Track filter (speed, track lenght, region of interest) •Track merging, and false alarm removal •Add event marks and place marks •Definition of alarm and interest regions •Re-exploitation of archived imagery witf different exploitation parameters
Fusion*	•Data fusion with additional data source •Pattern of life analysis •Anomaly detection

* ESEN's Big Data & Fusion capability offers advanced analysis and identification capabilities using AWAS System's exploitation result and additional data sources



eMatris-A

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eSEN

Titanyum C Blok Kat:2 ODTÜ Teknokent
06800, Çankaya, Ankara/ Türkiye

T: (+90) 312 220 14 88
F: (+90) 312 220 14 89

www.esensi.com.tr

