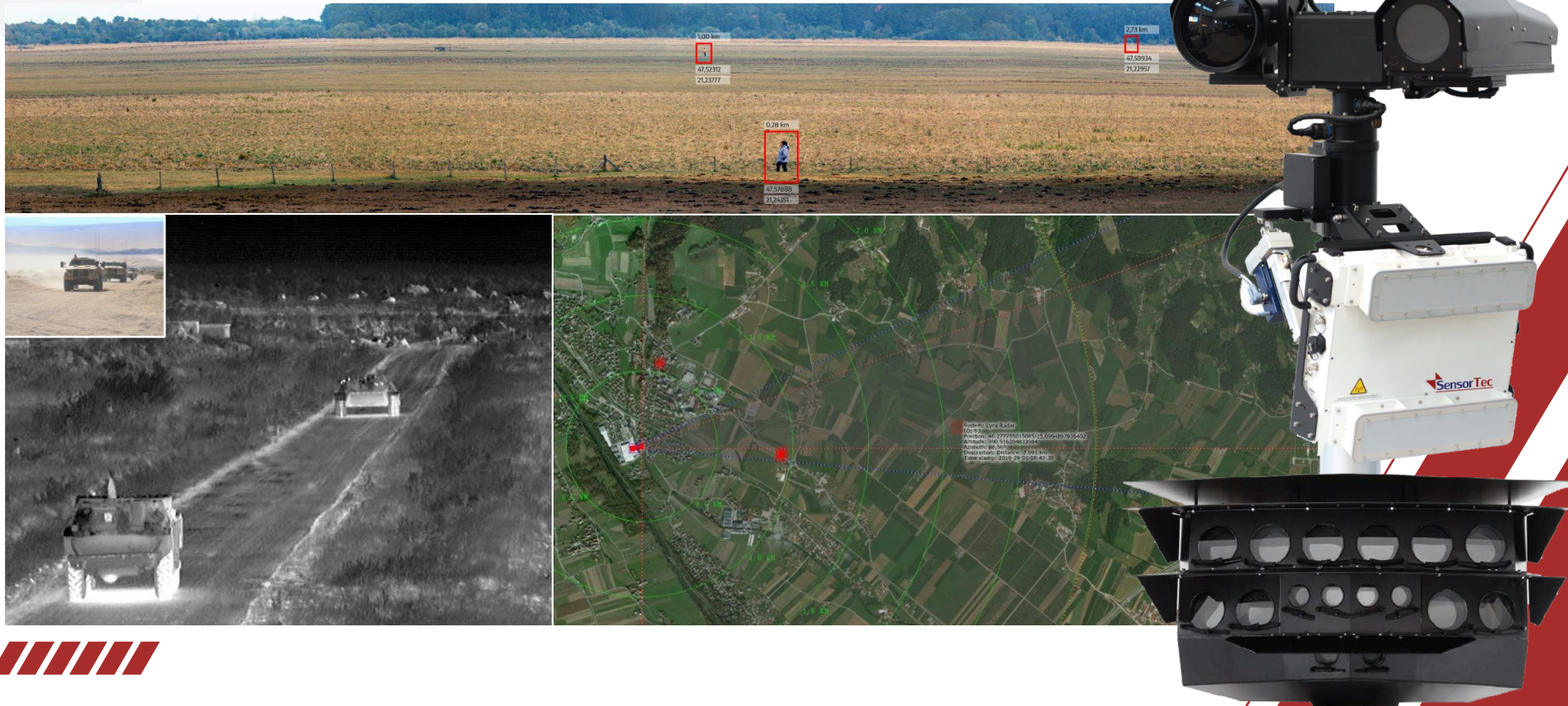




SENSORTEC BORDERS SOLUTIONS

SENSORTEC BORDERS SOLUTIONS

SensorTec borders solutions are intelligent surveillance AI-based systems that provide various surveillance sensors, this way they ensure the most comprehensive coverage and monitoring of border areas. Leveraging high resolution visible light and thermal sensors, 3D surveillance radars and advanced computer vision technologies, our solutions are able to realize complex systems that minimize monitoring gaps and produce the lowest false alarm rate possible.



SECURITY BEYOND LIMITS



In the few years since 2000, SensorTec has grown into an international company that it is today. We are among the most innovative technological companies in the world, manufacturing and developing intelligent security and surveillance solutions specifically for largescale projects for military, law enforcement, public authorities and private sectors.

We believe that serving the needs of our clients efficiently can only be achieved by delivering complete solutions. In order to achieve that, we design and manufacture all the critical components of our systems, including hardware, software and embedded computer vision. Our entire product range is manufactured and developed in accordance with the highest quality requirements.

SensorTec provides integrated solutions, which combine a wide range of devices, sensors, and software, such as surveillance cameras, surveillance radars, video analytic software and C3. All of our solutions are designed to work in harmony and provide a comprehensive multi-layer approach to deliver situation awareness and interactive intelligence.

KEY FIGURES

300+	TECHNICAL SUPPORT ENGINEER AND TECHNICIAN
4	<p>BRANCHE OFFICES</p> <p>HQ and Manufacturing Facilities: Cambridgeshire, UK. Budapest, Hungary.</p> <p>Sales and Technical Support Offices: Dubai, UAE. Riyadh, KSA.</p>



END-TO-END SENORTEC SOLUTIONS



Borders
Video Surveillance



Airports
Video Surveillance



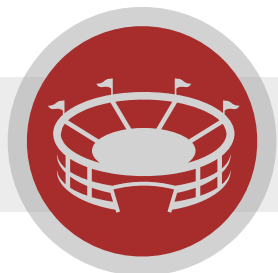
Seaports
Video Surveillance



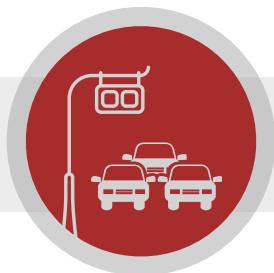
Critical Infrastructure
Video Surveillance



Safe & Smart City
Video Surveillance



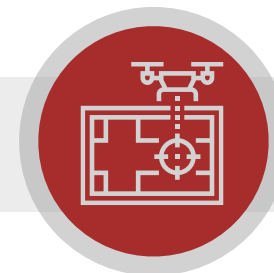
Stadiums & Crowds
Video Surveillance



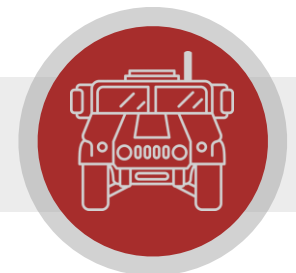
Traffic Management
& Violations Detection



Highway
Video Surveillance



Anti-Drone/UAV
Intelligent System



Mobile (In-Vehicle)
Video Surveillance

SELECTED INTERNATIONAL REFERENCES

BORDERS SURVEILLANCE AND SECURITY

Hungarian Land Borders - Hungary.
 Egyptian Land and Sea Borders - Egypt.
 Kuwaiti Land and Sea Borders - Kuwait.

AIRPORTS SURVEILLANCE AND SECURITY

LaGuardia Airport - New York.
 Hungarian Airport - Hungary.
 Mumbai Airport - India.
 Turkish Airport - Turkey.
 Alexandria Airport - Egypt.

SEAPORTS SURVEILLANCE AND SECURITY

Hungarian Waterway - Hungary.
 Sea Ports - Kuwait.
 Sea Port - UAE.

CRITICAL INFRASTRUCTURE SECURITY

Ministry of Defense - Egypt.
 Egyptian Monument Authorities - Egypt.
 Manarat Al Saadiat Cultural Museum - UAE.
 Private Palace - Kuwait.
 Saudi Arabia Embassy - Geneva.

CITY SURVEILLANCE AND SECURITY

Delhi City - India.
 Luxor City - Egypt.
 Sharm El Sheikh City - Egypt.
 Cairo City - Egypt.
 Port Saeed City - Egypt.

STADIUMS AND CROWDS SURVEILLANCE

Manchester City Stadium - UK.
 Budapest Szusza Ferenc Stadium - Hungary.
 Rijeka Stadium - Croatia.
 Beşiktaş Stadium - Turkey.
 Atatürk Olympic Stadium - Turkey.
 Fenerbahçe Şükrü Saracoğlu Stadium - Turkey.
 Luzhniki Stadium Moscow - Russia.
 Spartak Moscow - Russia.
 Mecca Religious Sites - KSA.
 Dubai Festival Plaza - UAE.
 Pyramids Touristic Area - Egypt.

TRAFFIC LAW ENFORCEMENT

Traffic Management And Violation Detection - Cairo, Egypt.
 Traffic Management And Violation Detection - Kuwait.
 Traffic Management - Armenia.
 Traffic Management - Hungary.

”

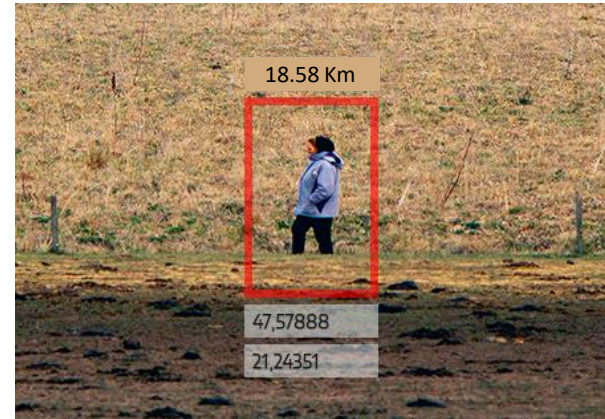
TURNKEY BORDERS SOLUTIONS

In Sensortec, We Aim To Refine The Borders Security Experience By Providing Our Clients With An Unrivalled Range Of Turnkey Solutions For Surveillance And Security Systems, By Understanding And Building For The Many Challenges Of Multifaceted Integrations.



CHALLENGES OF BORDERS SECURITY

Borders security faces significant challenges in continuous monitoring of extensive areas. Security fences, despite their presence, often prove insufficient against unauthorized entry. Sensor systems frequently encounter false alarms caused by animals, compromising their effectiveness. Triggered alarms lack visual confirmation. Even with multiple PTZ cameras, continuous monitoring and false alarm elimination is impossible, specially in case of multiple simultaneous alarms. Furthermore, establishing the necessary infrastructure and protection for equipment and data transmission is complex, particularly in remote and often harsh environments.



Human Detection up to 21.0Km.



Vehicle Detection up to 27.0Km.

THE SOLUTION

The persistent issue of monitoring vast borders in real-time demands sophisticated technologies and infrastructure. This is why we developed SensorTec Borders Solution. An intelligent video surveillance and security system, comprising various sensors, which operate in fusion and provide high-level of accuracy in automatic target detection, tracking, localization and classification. Our solution provides advanced visible light and thermal imaging sensors, equipped with edge AI. Utilizing sensor fusion technology, our solution is able to realize a comprehensive approach in surveillance, eliminating sensor limitations and producing the lowest false alarm rate possible.

Click to watch the video Borders Solutions.



PIONEERING TECHNOLOGIES BEHIND SENORTEC BORDERS SOLUTIONS



SensorTec Panoramic Technology

SensorTec panoramic technology makes it possible to geometrically stitch images of SensorTec visible light and thermal sensors. The images are taken in a synchronized fashion which precludes the possibility of duplicated or hidden objects at the stitching borders. White balance and tone correction algorithms smoothen the color gradient between the images.

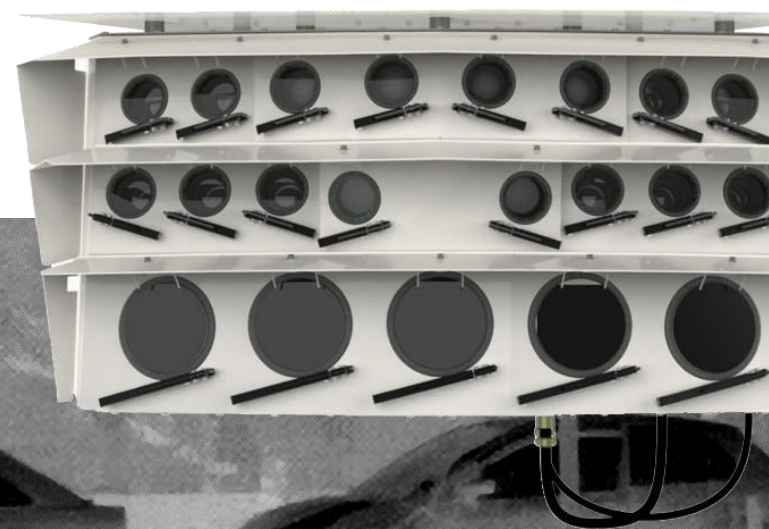
SensorTec Long-Range Multi-Sensor Technology

SensorTec provides a leading-edge fully customized multi-sensor systems employing the longest range visible light day/night zoom cameras and the latest focal plane array technology for cooled or uncooled thermal infrared cameras to meet long-range surveillance and target identification requirements.

SensorTec AI-Powered Video Content Analysis

SensorTec AI-based VCA relies on several advanced method. One of them is the Multidimensional Gaussian Background Model that always adapts to the background and differentiates every moving object from the learnt environment.

The VCA also applies object feature extraction, motion behavior analysis and motion path estimation algorithms in order to realize an intelligent, self-learning virtual environment.



Click to watch the video
Border Surveillance - Dual Vision Panoramic Camera.

PIONEERING TECHNOLOGIES BEHIND SENORTEC BORDERS SOLUTIONS

Sensor Fusion Technology

SensorTec developed a specific data level sensor fusion technology, which realizes aggregated raw data analysis for the most accurate automatic detection and tracking possible. The AI algorithm works with uncompressed data that are delivered from different types of data sources. This way our systems are able to overcome the limitations of individual sensors and provide more reliable information of the monitored area and the objects within.

Besides, we are able to efficiently integrate 3rd party sensors and combine their capabilities with our sensors.

PTZ Auto-Tracking

Our system is able to automatically control PTZ cameras based on Video Content Analysis that runs on panoramic images. As panoramic cameras and PTZ cameras are measured together, once the VCA detects and tracks an object, the system can transmit its real-time coordinates towards the PTZ. This way PTZ cameras can automatically track the desired targets.

On-Site Recording

SensorTec 4th generation data processing units are available with a special, outdoor design. They are weather and vandal-proof constructions with integrated thermal management to operate on-site. This feature significantly reduces installation costs, as there is no need to deploy fiber optic infrastructure over hundreds of kilometers between the cameras and the control centers.



YOU NEED OUR SYSTEM, IF YOU WOULD LIKE TO...



ONE MANUFACTURER, MULTIPLE TECHNOLOGIES

We provide multiple technologies, you can guarantee the quality and consistency of our systems and trust their delivery and service level.



MODULAR MULTI-LAYERED SOLUTIONS

Integrating multiple systems including panoramic cameras, EO/IR PTZ cameras, radars, RF detectors and jammers.



MONITOR ENTIRE VAST AREAS

Up to 16 Km² area can be monitored with one camera that provides better spatial orientation and VCA based decision making support.



EXTREME RESOLUTION MONITORING

200-960MP panoramic video footage contains high-resolution details for patrol units that can serve as evidence during investigations.



INTELLIGENT AI COMPUTER VISION TECHNOLOGIES

Providing AI-based systems specially developed to detect, classify and track targets automatically even few kilometers away.



REAL-TIME DECISION MAKING SUPPORT

Minimizing false alarm rate by highlighting potential threats only with their high-resolution visual images and real-time geo-position.



MULTIPLE TARGETS TRACKING

Providing automatic multiple target tracking based on VCA. Targets are highlighted on an interactive map and also on the panoramic view.



REAL-TIME GPS COORDINATES

Allowing operators to effectively guide patrol units to the exact spot, where they can take efficient actions to stop illegal activities.



MIL-SPECS HIGH-GRADE MATERIALS

Our systems are built according to military standards with IP67 rating and reliable construction that can withstand extreme environments.



VARIOUS MOUNTING

Our systems can be adjusted for use with different mountings to be fixed, portable or mobile vehicle mounted.

SENSORTEC BORDERS SOLUTIONS

MAIN FEATURES AND FUNCTIONS

Monitoring

- 200-960MP long range dual vision panoramic video stream.
- Long range multi-sensor monitoring.
- Real-time monitoring in full resolution.
- PTZ control on panoramic images.
- Interactive map.
- Automatic zoom tour.
- Archive video.

AI Video Content Analysis

- Object automatic detection.
- Object automatic tracking.
- Object classification (animal, human, heavy and light vehicle, boat, vessel).
- Multiple target tracking through multiple camera images.
- Tracking path.
- Object speed and direction detection.
- Automatic zoom and tracking function.
- Geofencing.
- Virtual fencing.

Integration

- Long range PTZ cameras.
- Radar systems.
- LASER range finders.
- Positioning systems.
- Seismic sensors.
- Fiber optic sensors.
- 3rd party control software.



SENSORTEC BORDERS SOLUTIONS

FINANCIAL BENEFITS



REDUCED INFRASTRUCTURE COST

Only few cameras are needed to cover vast areas, as a result no need to install numerous poles. The network infrastructure is far less complex and cabling is also fast and easy.



LONG LIFETIME

SensorTec leading-edge technologies ensure the system avoids both physical and technological obsolescence for a long time.



UNINTERRUPTED OPERATION

SensorTec provides uninterrupted system availability as all their components are developed to operate with high MTBF.



DESIGNED TO LAST

SensorTec systems can withstand intense weather conditions with metal constructions and built-in heating and cooling systems.



NO NEED FOR FREQUENT MAINTENANCE

SensorTec hardware components are capable of self maintenance, thanks to their built-in self-cleaning and deicing systems.



LOW RUNNING COST, REMOTE MAINTENANCE

Beside standard maintenance, which is well-planned and organized, SensorTec provides remote maintenance as well. The system constantly gives feedback on the condition of the cameras and other components. By exploring early warnings, failures can be prevented.



LESS MANPOWER

As vast areas can be monitored with much fewer cameras that provides far better spatial orientation for viewers and also VCA based Real-time Decision Making Support, far less operators are needed for efficient surveillance.



DESIGNING YOUR PROJECT



3D MODEL OF VISUAL COVERAGE

SensorTec starts each project with a customized 3D plan, which helps optimize camera arrangement, the necessary resolution and coverage according to client needs.



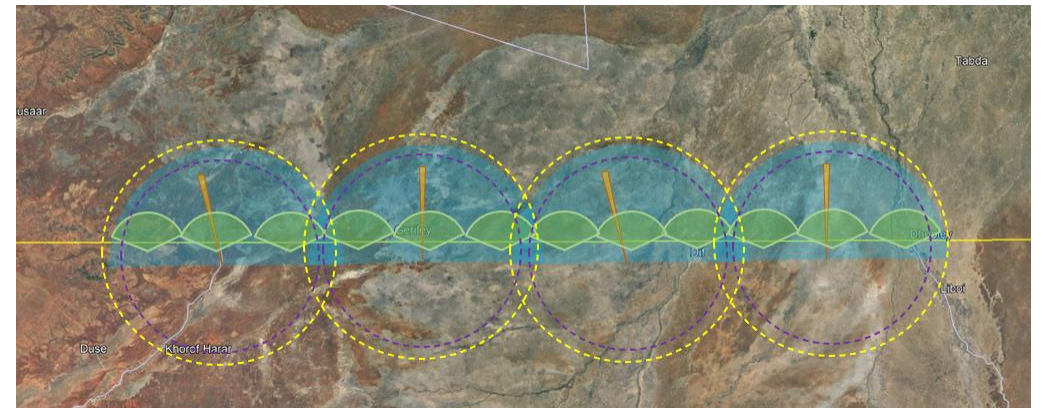
ADAPTABLE SYSTEM STRUCTURE

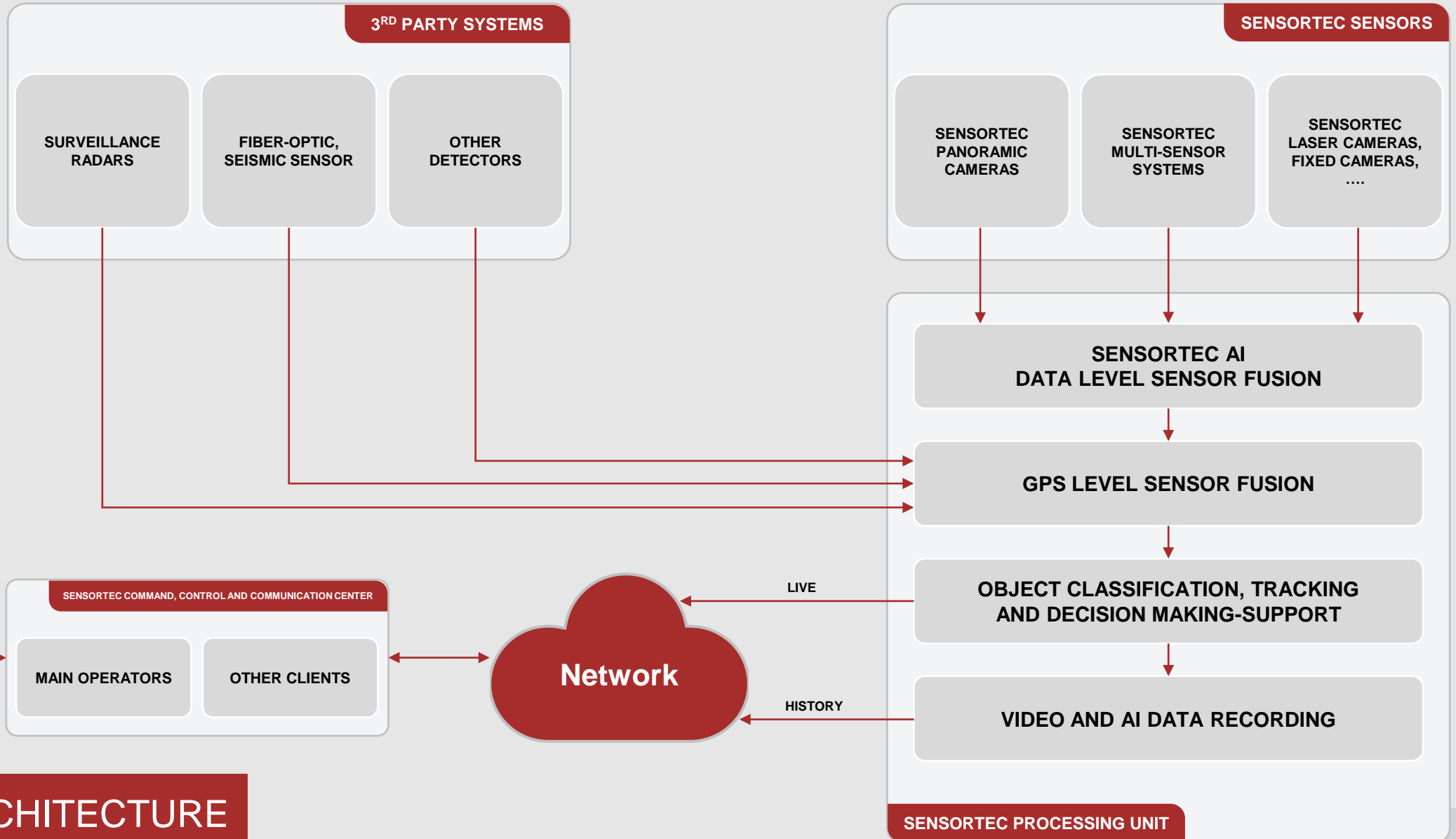
We always consider our clients requirements to best adapt the system for the current project. Moreover, our solution has a flexible hardware structure that can be easily rearranged in case of future developments.



SYSTEM EXTENSION

SensorTec borders solutions are designed to be flexible for future developments. Both the covered areas and also system functionality can be extended easily on demand.





SYSTEM ARCHITECTURE

VISUAL ENHANCEMENT USING HIGH-END SENSORS



COVERING VAST AREAS

SensorTec borders solutions are designed to fully cover immense border areas even on challenging terrains using high-end surveillance sensors.

The main line of visual coverage consists of our dual-vision panoramic cameras along with multi-sensor PTZ cameras. A single panoramic camera provides 320MP resolution for visible light surveillance and 6MP for thermal vision. It provides 40° FOV and effectively monitors an area of 3.2km² from a single viewpoint. Its resolution allows to detect humans within a range of up to 3km.

Three of these cameras can be installed at a single spot, providing 960MP resolution for visible light surveillance and 18MP for thermal vision. It provides 120° FOV and effectively monitors an area of 9.6km² from a single viewpoint.



120° 960MP
Dual Vision Panoramic Camera



Click to watch the video
Maritime Border Surveillance.

VISUAL ENHANCEMENT USING HIGH-END SENSORS



MULTI-SPECTRAL IR IMAGING

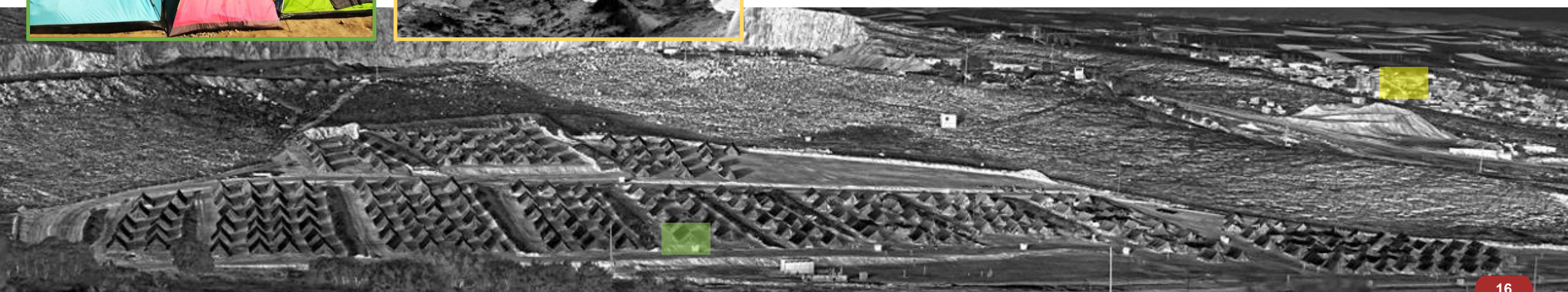
There are many types of imaging technologies available, SensorTec provides multi-sensor systems that allow you to easily take advantage of multiple imaging technologies simultaneously.



MONITORING IN EXTREME RESOLUTION

Displaying 200-960MP panoramic images during live monitoring or archive playback is not an easy task. This amount of data can impose excessive burdens on the network infrastructure and also on client computers.

SensorTec developed a special technology to overcome this issue. The system stores the panoramic images in full resolution on the NVR, but always transmits and displays only relevant pixels. When a panoramic overview is on screen, its horizontal resolution is equal to the screen resolution. When an operator zooms in, the system sends the cropped image in higher resolution. As the zoom value increases, so does the transmitted image resolution.



SENORTEC BORDERS SOLUTIONS

AI-POWERED VIDEO CONTENT ANALYSIS

Covering large areas with extremely high resolution is just the initial stage in effective surveillance. SensorTec borders solutions are developed to automatically detect, track, and classify various object types within the monitored area.

In a natural environment, typically numerous animals are in motion, which are not relevant in terms of surveillance. Our algorithms precisely recognize objects, alerting operators when potential threats are present in the field. Our AI-powered VCA accurately classifies animals, humans, heavy or light vehicles, vessels and boats.

The Real-Time Decision Making Support optimizes the front-end visualization of all detected objects, highlighting relevant or urgent situations in the user interface. This process ensures that operators receive filtered information, allowing them to make informed decisions based on visual verification to determine whether the moving objects are friendly, neutral, or pose a potential threat.



Distance of Target: [2005418]: 1305m [2005419]: 1312m.



Distance of Target: [2005412]: 470m [2005417]: 1860m.

[Click to watch the video](#)
Border Surveillance - Automatic Target Detection at Dusk.



AUTOMATIC THREAT DETECTION AND SITUATIONAL AWARENESS

SensorTec borders solutions offer multifaceted threat detection capabilities to elevate situational awareness. Employing panoramic imaging, long-range thermal imaging, radar, RF signal detection, ground sensors, drones, and other advanced technologies, our solutions ensure round-the-clock vigilance for enhanced day and night situational awareness.

Our design approach focuses on tailoring solutions for optimal performance across short, medium, and ultra-long ranges. This involves seamlessly integrating multiple systems and equipment, spanning from visible light to various infrared spectrum wavelengths, into an integrated solution that provides comprehensive 360° coverage. To further enhance functionality, we incorporate custom AI-powered video content analysis providing AI-powered detection, classification and tracking functions to exceed the limitations of operator-based observation.



Click to watch the video Long Range Detection.

AUTOMATIC OBJECT DETECTION

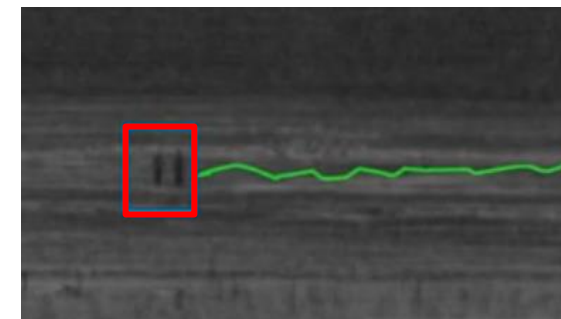
SensorTec developed a specific sensor fusion technology, which realizes exceptionally accurate object detection in the surveillance area. The Video content analysis and the radar data analysis are combined together. The algorithm recognizes any suspicious moving object in the distance that could be a potential threat. Geofencing function allows specific detection configurations within the covered area. Zones can be virtually designated which for various detection rules can be assigned.



AUTOMATIC OBJECT TRACKING

The system automatically tracks the motion of all detected objects. Even if they move between camera images, the AI-powered VCA accurately follow and record their paths in the images. The algorithm is able to track 2500 targets at the same time and operators are able to lock the selected ones for automatic tracking in individual zoom windows.

Based on GPS coordinates that are delivered by the radars and also calculated by interpolation on the panoramic images, the system automatically controls PTZ and thermal PTZ cameras. During night monitoring or in low-bandwidth network environments an aligned reference image and moving position indicators help operators to find targets' real-time spatial positions in the images.



[Click to watch the video](#)
Border Surveillance - Perimeter Features.



TARGET LOCALIZATION

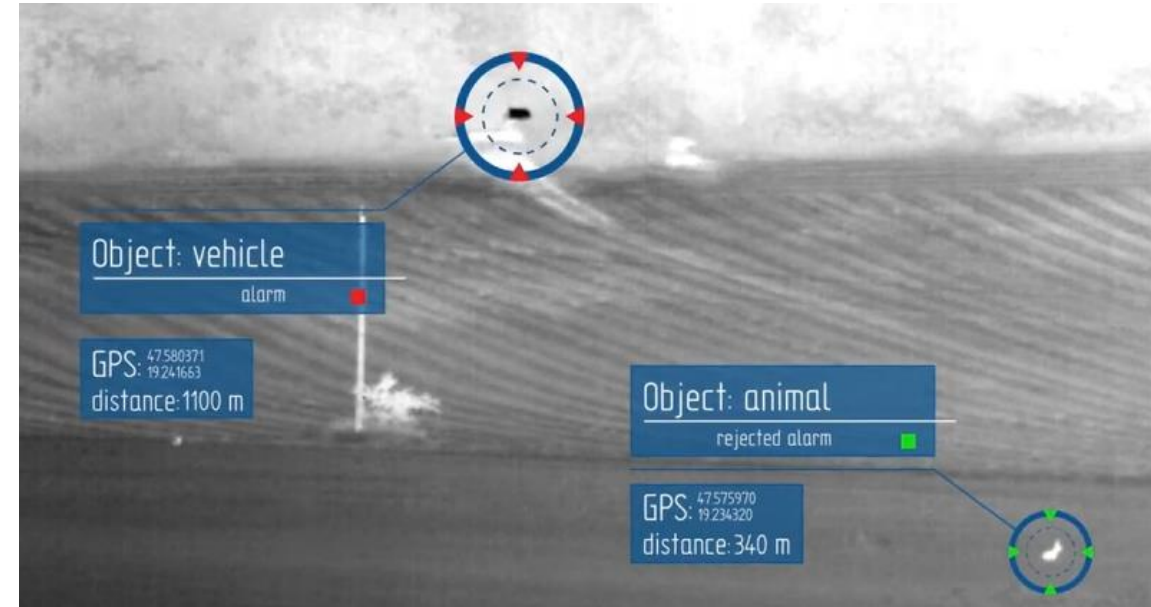
In order to respond threats effectively, the exact positions of targets must be known beside tracking them. Our system delivers the precise GPS coordinates, speed and heading information of all detected objects from the moment of detection. The system uses both radar information and VCA calculated coordinates for localization. It is able to match radar data with the VCA-detected objects and display the information together with the targets.



Date	Time	GPS	Speed (km/h)	Distance (m)
11.10.2018	17:29:10	46.64231, 19.12737	2	350
11.10.2018	17:29:10	46.63922, 19.14008	0	750
11.10.2018	17:29:10	46.63922, 19.14007	0	750
11.10.2018	17:29:10	46.63636, 19.14024	3	1000

OBJECT CLASSIFICATION

SensorTec AI-powered classification function precisely recognizes animals, humans, heavy and light vehicles, vessels, and boats even at great distances. This capability aids in suppressing detection signals that are irrelevant to the actual surveillance task.



Date	Time	GPS	Speed (km/h)	Distance (m)	Violation ID	Type	Area	State
11.10.2018	17:29:10	46.64231, 19.12737	2	350	ID4356	human	1350	alarm
11.10.2018	17:29:10	46.63922, 19.14008	0	750	ID4357	animal	1350	rejected
11.10.2018	17:29:10	46.63922, 19.14007	0	750	ID4358	animal	1350	rejected
11.10.2018	17:29:10	46.63636, 19.14024	3	1000	ID4359	human	1351	alarm
11.10.2018	17:29:10	46.62571, 19.14220	4	2250	ID4360	human	1352	alarm
11.10.2018	17:29:10	46.63512, 19.13813	14	1200	ID4361	vehicle	1353	alarm

GEOFENCING AND VIRTUAL FENCE

Our system geofencing function allows to virtually map existing border zones on camera images. These configured zones facilitate orientation and accelerate object search for operators. They can easily find objects during live monitoring or archive search, Operators can designate temporary zones and they can define various rules to these areas. They can simply draw around a static object or a desired area and apply relevant rules. The activated rules take effect on this area and trigger different warnings or alerts.



INTERACTIVE MAP

SensorTec solution also provides an interactive map that visualize objects as moving icons. It shows camera FOVs and real-time GPS coordinates of targets as well. Operators can select targets on the map to show immediate zoom images of them.



Click to watch the video
Border Surveillance.



AUTOMATIC PTZ CONTROL

A special function allows the panoramic and PTZ cameras to be assigned by registering common spatial points that are visible to both cameras. This function allows operators to control the PTZ cameras by selecting the area of interest in the panoramic image.

Our system is able to automatically control PTZ cameras based on video content analysis. As panoramic cameras and PTZ cameras are measured together, once the VCA detects and tracks an object, the system can transmit its real-time coordinates towards the PTZ. This way PTZ cameras can automatically track the desired targets.

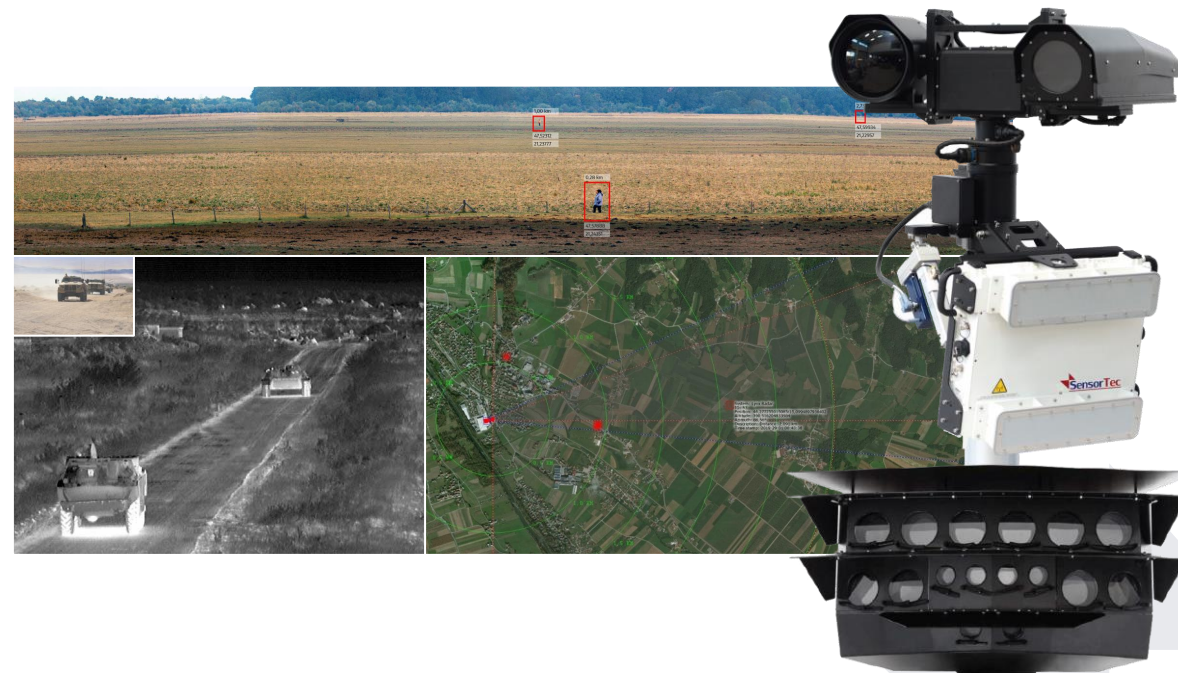


3rd PARTY INTEGRATION

One of the solution's great advantages is, that it is able to integrate third-party surveillance components in order to fill remaining monitoring gaps. In addition to the SensorTec sensors, the system can integrate third-party seismic detectors, fiber-optic sensors, long-range and thermal PTZ cameras, radars and PIDS.

Our system ensures the full manual and automatic control of the integrated PTZ cameras. Although, in contrast with the panoramic cameras, a single PTZ can not track multiple targets at the same time, but installing them on strategic spots they can perform as effective surveillance sensors.

In case seismic detectors, fiber-optic sensors or an other perimeter intrusion detection system operates on the field, our system can receive their signals and use them to trigger automatic zoom functions on cameras.





SENSORTEC INTEGRATED SYSTEMS

SENSORTEC MTDU

MULTI-TECHNOLOGY DETECTION AND TRACKING UNIT

SensorTec employs an integrated system referred to as the Multi-Technology Detection and Tracking Unit (MTDU), which provides the ability to track multiple targets simultaneously. MTDU uses Tracking Radar, Long-range Thermal Camera, Long-range Visible Day/Night Camera, Panoramic Camera to enable the detection, tracking, identification, and classification of illegal border entries.

3D RADAR DETECTION

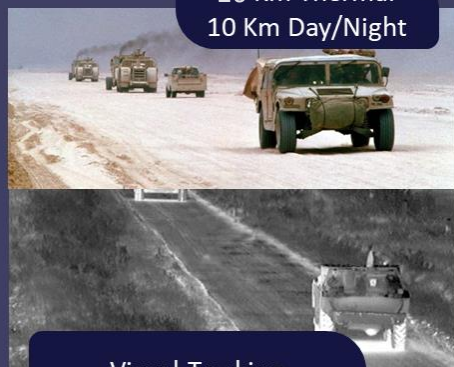


30 Km

Location Map

Early object detection, tracking and identifying location, speed, size and direction.

VISUAL TRACKING

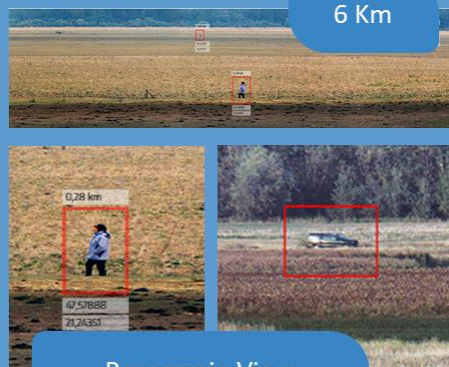


26 Km Thermal
10 Km Day/Night

Visual Tracking

Follow the progress or movements of selected targets.

PANORAMIC VCA VIEW



6 Km

Panoramic View

Multiple targets detection and tracking with full VCA.



Click to watch the video
SensorTec MTDU - Borders Security.



SENSORTEC PANORAMIC E-GUARD

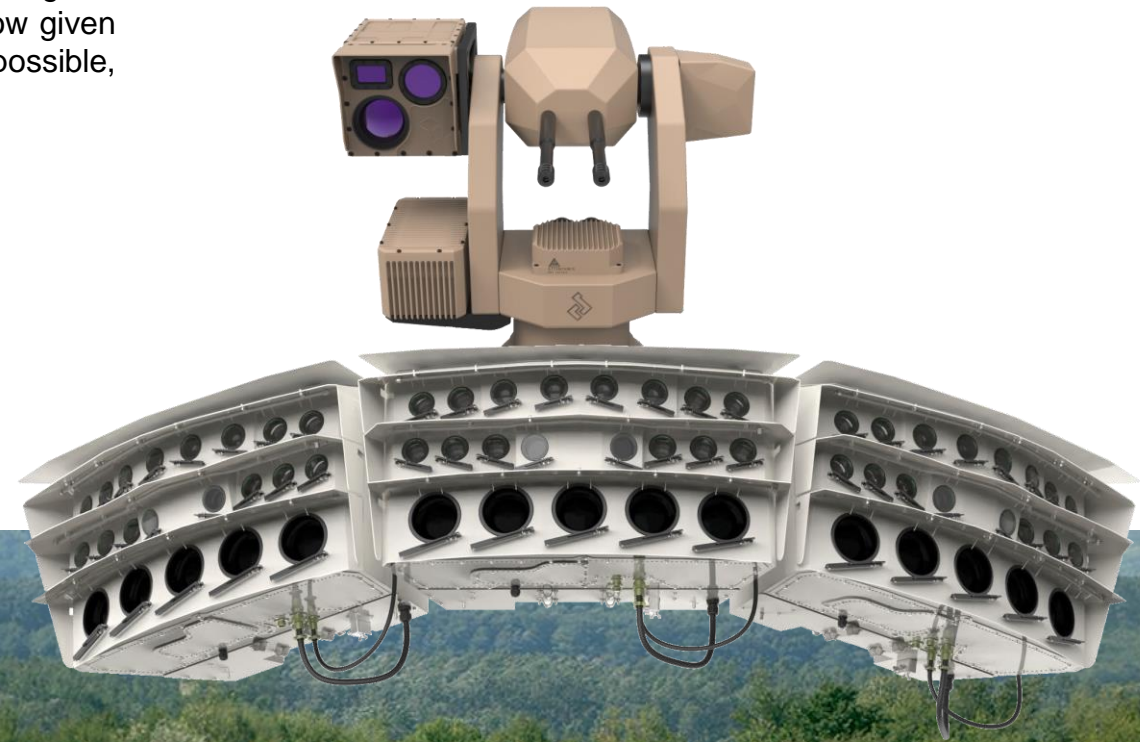
MULTI-TECHNOLOGY DETECTION AND TRACKING UNIT



Panoramic E-Guard is a fully autonomic homeland and asset protection system. It is designed to detect and recognize all intruders in a designated area. Once an intruder is detected the system gives clear instructions how to move away from the protected area. In case intruder does not follow given instructions, system goes into protect mode and neutralizes the intruder in the safest way possible, avoiding any long term damage of the intruder.

NEUTRALIZATION SYSTEM

Range: 50-100m.
 Ammunition: Nylon / Teargas.
 Calibre: 0.68 / 0.5 / 0.43.



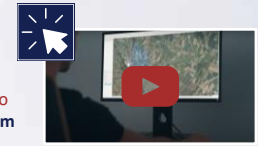
[Click to watch the video](#)
 SensorTec Panoramic E-GUARD .



SENSORTEC ANTI-DRONE/UAV SYSTEM

SensorTec offers a compact air defense solution against drones/UAVs that was developed and tested for border protection projects. Radar, long range observation system, radio frequency detector and high power radio frequency jammer are able to detect, recognize, identify and soft/hard kill flying objects.

Our system is built to operate 24/7 continuously and it can be installed as fixed, portable or mobile solution. Integrated 3D radar works with the latest generation solid state technology electronic scanning. Thermal camera gives the system long detection, recognition and identification range.



[Click to watch the video
Anti-Drone/UAV System](#)

SENSORTEC MOBILE IN-VEHICLE SYSTEMS

SensorTec mobile (in-vehicle) surveillance systems can be used for monitoring small or large areas of land or sea. They offer high mobility and good comfort for the operators, easy upgrading of the system with additional equipment. They are used for border surveillance, perimeter monitoring and other surveillance missions. These vehicles can be connected to a command center and provide a vital component to a complete security and surveillance solution.

MOBILE SYSTEMS WITH DIFFERENT SENSORS

Long Range Multi-Sensor Camera.

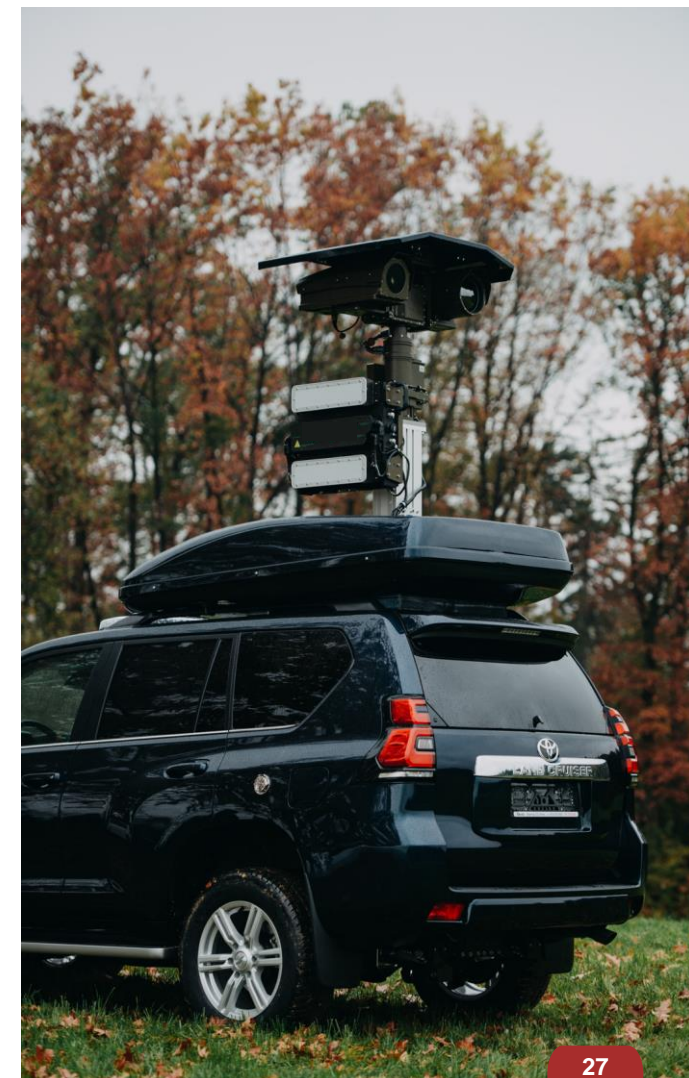
Precise 3D Tracking Radar.

Digital Compass, GPS.

Digital Map with Target Position.



[Click to watch the video](#)
Mobile In-Vehicle System.



SENORTEC DRONES/UAVS INTEGRATION WITH UNATTENDED GROUND SENSOR SYSTEMS

Unattended Ground Sensors (UGS) provide reliable and continuous monitoring and surveillance of borders located in rugged mountain terrain, heavy forests and harsh climates.

Seismic sensors are lined up and buried underground in such a way that their circular detection zones overlap and create continuous, hidden protection along the boundary. The UGS processes alarms itself to effectively eliminate false alarms. In some cases, the system's concealed installation can be an even greater advantage. Alarm data is transmitted over long distances through a mesh radio network to a command center.

The system can be supplemented with drones for real-time mapping, tracking and monitoring. operator can use the locations of ground sensors to make a flying route for a drone. The drone reaches the location of trespassing as soon as one or several ground sensors start transmitting alarms.



25 Hours Flight, 180km Range
Long Endurance Unmanned Aircraft System.



Click to watch the video
Unattended Ground Sensor Systems.





SENSORTEC KEY PRODUCTS

SENSORTEC PANORAMIC CAMERA SYSTEMS

	PANORAMIC CAMERAS								VIRTUAL PANORAMIC
CAMERA TYPE	40° 320MP Dual Vision	10° 100MP Dual Vision	40° 320MP	180° 300MP	180° 200MP	90° 100MP	20° 200MP	10° 100MP	20MP cameras Variable Structures
VISION	Visible Light and Thermal		Visible Light						
DESIGN	Industrial Grade Military Grade Marine Grade								Custom Housings
EMBEDDED INTELLIGENCE	Video Content Analysis								
RELATED NVR	SensorTec 4 th Gen. Network Video Recorder (Rack-Mounted and Outdoor)								
INTEGRATION	Multi-Sensor System Radar Thermal Camera LASER PTZ Camera IR Flash								
VIDEO MANAGEMENT SOFTWARE	Control Center (Professional or Ultimate)								



180° 200MP
Panoramic Camera



90° 100MP
Panoramic Camera



40° 320MP Dual Vision
Panoramic Camera



40° 320MP
Panoramic Camera



20° 200MP
Panoramic Camera



180° 300MP
Panoramic Camera



SENSORTEC PANORAMIC CAMERA SYSTEMS

UNBEATABLE RESOLUTION



SensorTec applies several specifically developed, high-quality sensor-lens combinations within massive, purpose-designed camera units. Their enormous resolution ensure the cameras deliver useful visual information from even kilometers away.

AUTOMATIC DETECTION AND TRACKING BY COMPUTER VISION

PANORAMIC CAMERA	HUMAN (23 PPM)	LIGHT VEHICLE (12 PPM)	HEAVY VEHICLE (8 PPM)	AIRPLANE (2 PPM)
40° 320MP*	3,000 m	5,900 m	8,860 m	35,400 m
180° 300MP	600 m	1,170 m	1,760 m	7,048 m
180° 200MP	600 m	1,170 m	1,760 m	7,048 m
90° 100MP	600 m	1,170 m	1,760 m	7,048 m
20° 200MP	3,000 m	5,900 m	8,860 m	35,400 m
10° 100MP*	3,000 m	5,900 m	8,860 m	35,400 m



120° 960MP
Dual Vision Panoramic Camera



Click to watch the video
Panoramic Camera - River Monitoring.

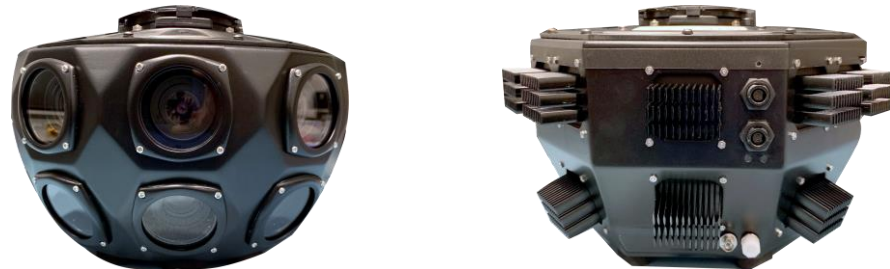


DRONE-MOUNTED PANORAMIC CAMERA

SensorTec Drone-mounted Tethered Panoramic Camera is developed to be mounted on different types of drones to monitor vast areas with wide angle panoramic view.

DRONE-MOUNTED TETHERED PANORAMIC CAMERA

- 120MP resolution and 120° horizontal Field of View.
- Day-night operation modes.
- AI for human and vehicle detection up to 1000m.
- Picture enhancement algorithms for foggy, rainy weather conditions.
- Real-time camera image stitching to create panoramic view and zoom.
- High Dynamic Range (HDR).
- Precisely stitched panoramic image with white balance and gradient compensation.
- Rugged housing.
- Small size and could be mounted on small drones.
- Light weight 1.5Kg.



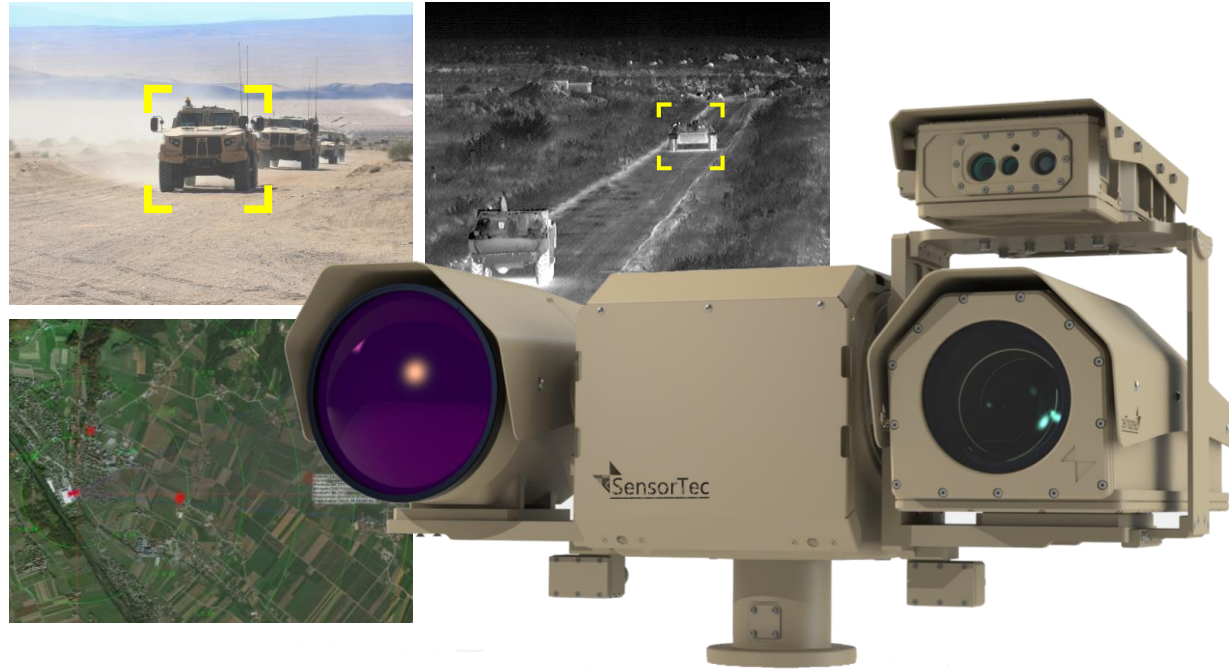
120° 120MP
Drone-mounted Tethered Panoramic Camera



SensorTec 120° 120MP Drone-Mounted Panoramic Camera - 30% of the actual image size.

SENSORTEC MULTI-SENSOR CAMERA SYSTEMS

- Simultaneous preview of day/night and thermal cameras.
 - Continuous zoom on both payloads.
 - Radar connectivity (Slew to Cue) and tracking.
 - Video tracking with auto/manual target acquisition.
 - Auto/manual/remote focus on both payloads.
 - TCP/IP interface.
 - Compatibility with 3rd party payloads.
 - Electronic image stabilization on both payloads.
 - Rigid system design (up to 90km/h wind speed resistance without damage).
 - Temperature range of the whole system: -32°C to +55°C.
 - Maximum humidity of the whole system: 95%.
 - Long lifetime with extremely high MTBF up to 20200 H.
 - Comply with IP67, built according to MIL-810.
- Vibration test: IEC 60068-2-64.
Shock test: IEC 60068-2-27.
Icing test: NEMA 250.
Salt fog test: IEC 60068-2-52.



MODULAR
VARIETY PAYLOADS
COMBINATION



MULTI-SPECTRAL
Visible, SWIR, MWIR, LWIR



LONGEST RANGE
UP TO 200X ZOOM LENS



WIDE ANGLE
UP TO 47° HORIZONTAL FOV



WEATHERPROOF
55°C TEMPERATURE
AND 95% HUMIDITY



MILITARY GRADE
BUILT ACCORDING
TO MIL-810 STANDARD



RADAR INTEGR.
WITH SLEW TO CUE
AND TRACKING



STABILIZATION
GYRO AND ELECTRONIC
STABILIZATION (EIS)



MOUNTING
FIXED, PORTABLE,
VEHICLE MOUNTED

SENSORTEC MULTI-SENSOR CAMERA SYSTEMS



All our multi-sensors are modular, allow the client to select the combination of payloads they need for their specific application. Configuration of every multi-sensor is tailored to requirements of the specific project and the environment in which it will be used (fixed, portable, vehicle mounted, ...).

Multiple payloads on one pan-tilt system within a separate housing
Individually removable to enable service of one payload while the other is still operational

- Long-Range Thermal Camera (Cooled MWIR or Uncooled LWIR)
- Medium-Range Thermal Camera (Cooled MWIR or Uncooled LWIR)
- Day/Night Camera (Regular or Low Light).
- SWIR Thermal Camera.
- Ground, Air or Multi-mode Radar.
- Robust Pan Tilt System.
- Laser Range Finder (LRF).
- Video Processing Unit (VPU).
- GPS.
- Digital Magnetic Compass.
- Microphone.
- Electric Mast or Tripod.
- Lens Cleaning System.
- Gyroscope Stabilizer.
- C3 with GIS Software for Preview and Control.



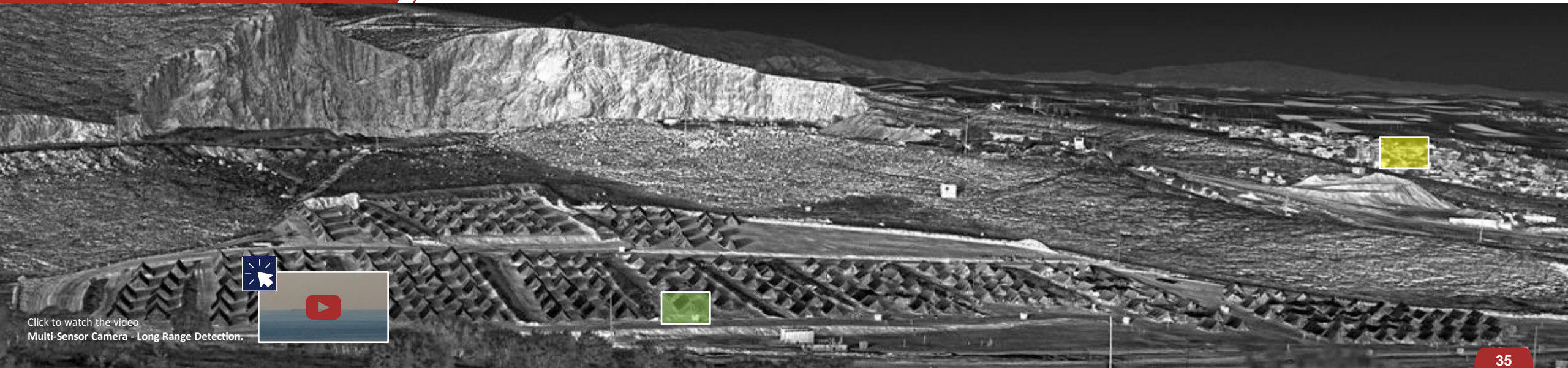
SENSORTEC MULTI-SENSOR CAMERA SYSTEMS

ULTRA LONG-RANGE SURVEILLANCE

SensorTec provides a leading-edge fully customized multi-sensor cameras employing the longest range visible day/night zoom cameras and the latest focal plane array technology for cooled or uncooled thermal infrared cameras to meet long-range surveillance and target identification requirements.

MWIR COOLED 26Km Vehicle Detection	LWIR UNCOOLED 17Km Vehicle Detection	SWIR UNCOOLED 35Km Vehicle Detection	VISIBLE LIGHT 10Km Vehicle Detection
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The value depends on the selected detector and cooler.



Click to watch the video
Multi-Sensor Camera - Long Range Detection.

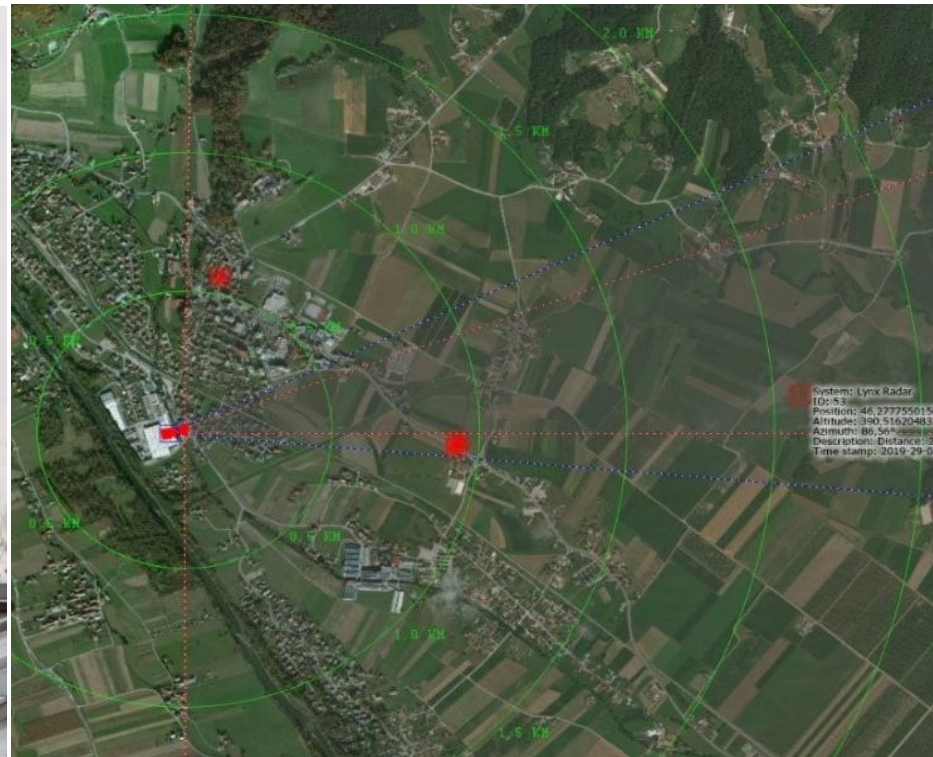
SENSORTEC SURVEILLANCE RADARS

GROUND, AIR, COASTAL AND MULTI-MODE RADARS



SensorTec offers a comprehensive solutions for short, medium and long range detection applications by integrating our electro-optics systems with various configurations of counter-drone, ground surveillance and coastline security radars.

SensorTec radars scan and detect fast moving objects over a wide area and provide exceptional detection performance up to 40km with rapid electronic or mechanical scanning of 90°, 270°, 180° and 360°.



SENSORTEC LONG RANGE LASER PTZ CAMERA

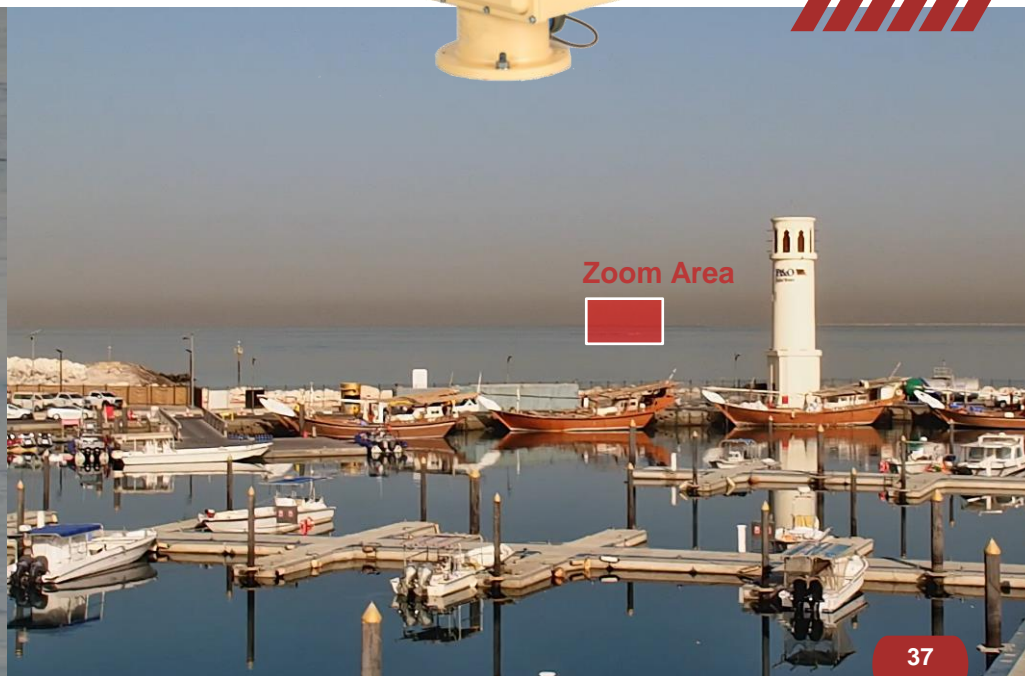
10km day, 5km night long range LASER PTZ camera system is composed of a LASER illuminator with collimator and visible light camera in the same housing, mounted on a Pan-Tilt unit. The visible light camera allows observation under all weather conditions even in fog, rain or snow. The platform pan-tilt unit is able to turn the camera in all direction, both in azimuth and elevation and controlled from the operator place or remotely from the existing control room. The integrated LASER illuminator has synchronized beam with the camera field of view enables the camera to see in total darkness without emitting any visible light. This makes this system the best low-cost day/night long range observation system without using a thermal camera.



Click to watch the video
Long Range LASER PTZ Camera.



SensorTec Long Range LASER PTZ Camera - Boat Tracking at 5Km.



SENORTEC HIGH-END NETWORK VIDEO RECORDERS

SensorTec high-performance network video recorder specifically designed to record and manage the video streams of the latest generation our multi-sensor and single sensor cameras. Our NVR series offers a robust system for diverse applications and empowers users to set up and manage advanced IP surveillance systems with ease.



Outdoor NVR Series.
For Panoramic and Single Sensor Cameras.



Indoor NVR Series.
For Panoramic and Single Sensor Cameras.



Indoor H.264/H.265 NVR Series.
For Single Sensor Cameras.

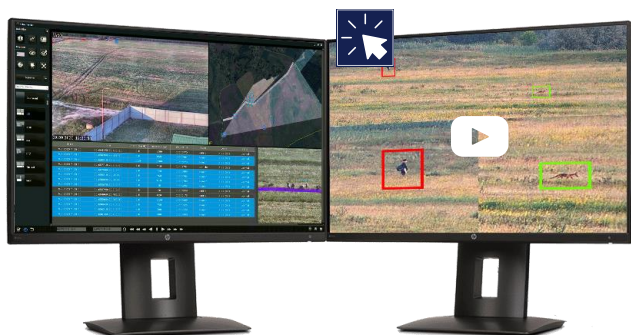
SENORTEC SOFTWARE

SENORTEC C2 CONTROL CENTER

SensorTec C2 software package is developed specifically for panoramic surveillance solutions.

It provides centralized monitoring where all visual information and data are fused and displayed.

Front-end visualizations of filtered and weighted alarms guide the attention of operators, this way they can always focus on urgent situations and react quickly.



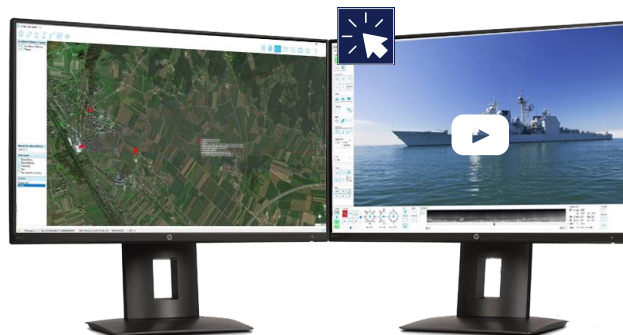
SensorTec C2 Control Center

SENORTEC C3 COMMAND, CONTROL AND COMMUNICATION CENTER

SensorTec C3 software package acts as a connection point for all subsystems (Day/Night cameras, Thermal camera, Pan-Tilt, Radars, etc.) and as a distribution point for data system parameters, diagnostics, imaging etc.) to all connected clients.

GIS Map Software Main Features

- Map image streaming.
- 3-D Map navigation.
- Map Presets.
- Map layer management.
- Angle, distance area measurements.
- 3D slew to cue functionality.



SensorTec C3 Command, Control and Communication Center

SENORTEC VMS VIDEO MANAGEMENT SYSTEM

SensorTec VMS Enterprise (ONVIF compliant) is a professional and intelligent video management software designed for medium to large projects. Together with SensorTec cameras, it can simplify and freshen up your video surveillance. With advanced client/server architecture, it fulfills your demands and expectations, with rich core functions including live view, record, E-Map, event alarm and smart analysis etc.

SensorTec VMS Enterprise already has AI capabilities enabled. The intelligent attributes of humans and vehicles can still be filtered and alarmed by the on-server AI video analytics, regardless of whether the front-end IPC is AI or non-AI.



SensorTec VMS Video Management Software

SENSORTEC HIGH-END WIMAX AND MICROWAVE SYSTEMS

A Complete Range of Wireless Solutions for both PTP and PTMP Fixed Wireless Deployments.

SensorTec has a vast experience in the wireless video surveillance market. We design, supply and implement a high reliable wireless security solutions for border security, traffic monitoring, highway safety, city surveillance and many others.

SensorTec wireless solution boosting easy installation and maintenance, quick deployment, flexibility, scalability and long lifetime.





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