SensorTec

DEVELOPING & MANUFACTURING
INTELLIGENT VIDEO MONITORING SOLUTIONS

SECURITY BEYOND LIMITS

TRAFFIC MANAGEMENT
FOR LAW ENFORCEMENT

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, developing and manufacturing intelligent security and monitoring solutions specifically for largescale projects for military, law enforcement, public authorities and private sectors.

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

SensorTec provides integrated solutions, which combine a wide range of devices, sensors, and software, such as surveillance radars, surveillance cameras, 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.

3	Branche offices.

HQ and Manufacturing Facilities:
Cambridge, UK.
Budapest, Hungary.

Sales and Technical Support Office:
Dubai, UAE.

SYSTEMS AND SOLUTIONS

BORDERS
SURVEILLANCE AND SECURITY

TRAFFIC MANAGEMENT
AND VIOLATION DETECTION

CRITICAL INFRASTRUCTURE
SURVEILLANCE AND SECURITY

SAFE & SMART CITY
SURVEILLANCE AND SECURITY

AIRPORTS & SEAPORTS
SURVEILLANCE AND SECURITY

STADIUMS & CROWDS
SURVEILLANCE AND SECURITY
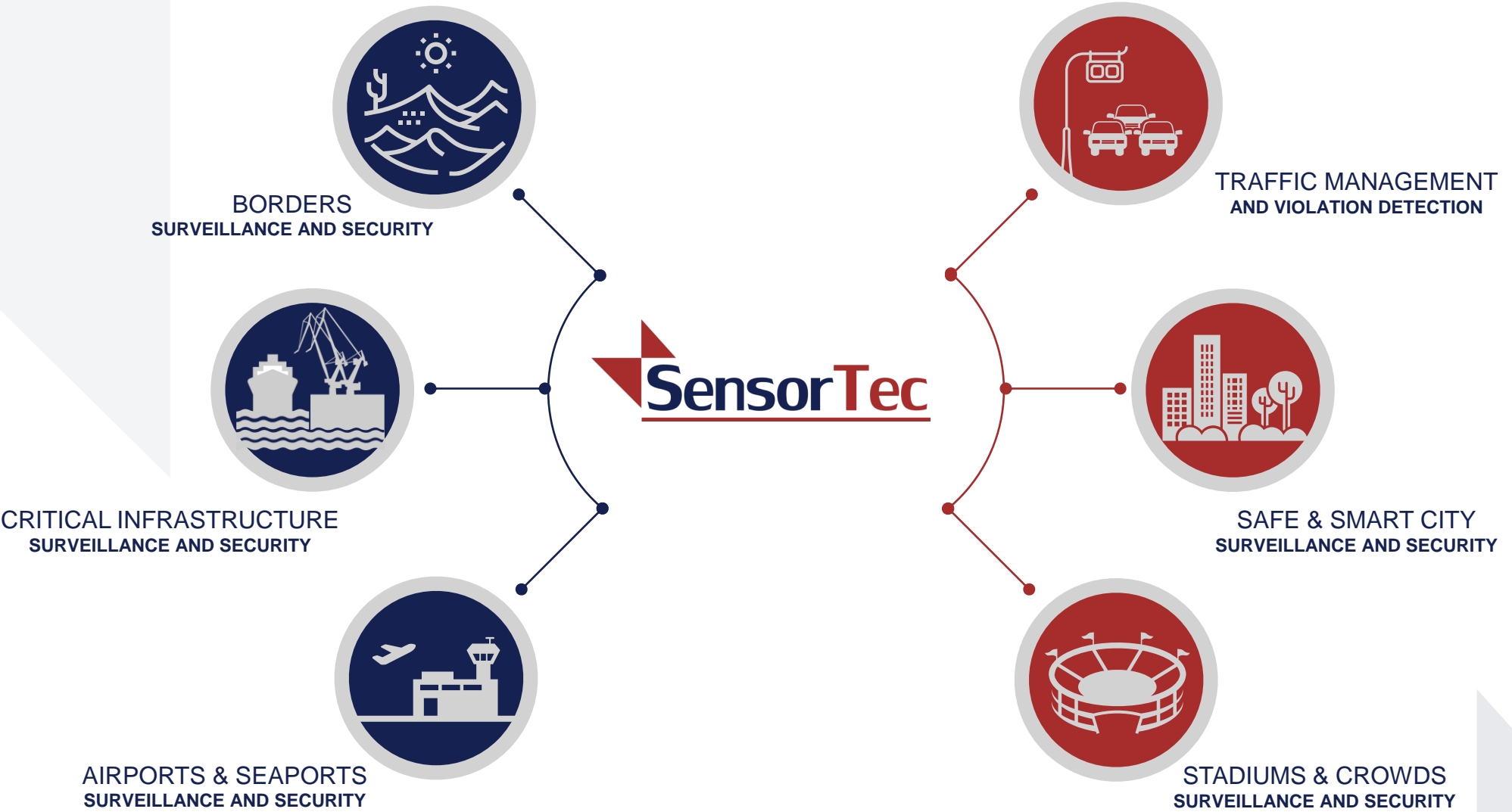
SELECTED INTERNATIONAL REFERENCES

BORDERS SURVEILLANCE AND SECURITY
Egyptian Land Borders - Sinai, Egypt.
Kuwaiti Sea And Land Borders - Kuwait.

AIRPORTS SURVEILLANCE AND SECURITY
LaGuardia Airport - New York.
Hungarian Airport - Hungary.
Mumbai Airport - India.
Turkish Airport -Turkey.
Alexandria Airport - Egypt.

CITY SURVEILLANCE AND SECURITY
Mumbai City - India.
Luxor City Surveillance - Egypt.
Sharm El Sheikh City Surveillance - Egypt.
Cairo Monitoring System - Egypt.
Port Saeed City Surveillance - Egypt.

TRAFFIC LAW ENFORCEMENT
Traffic Management And Violation Detection - Cairo.
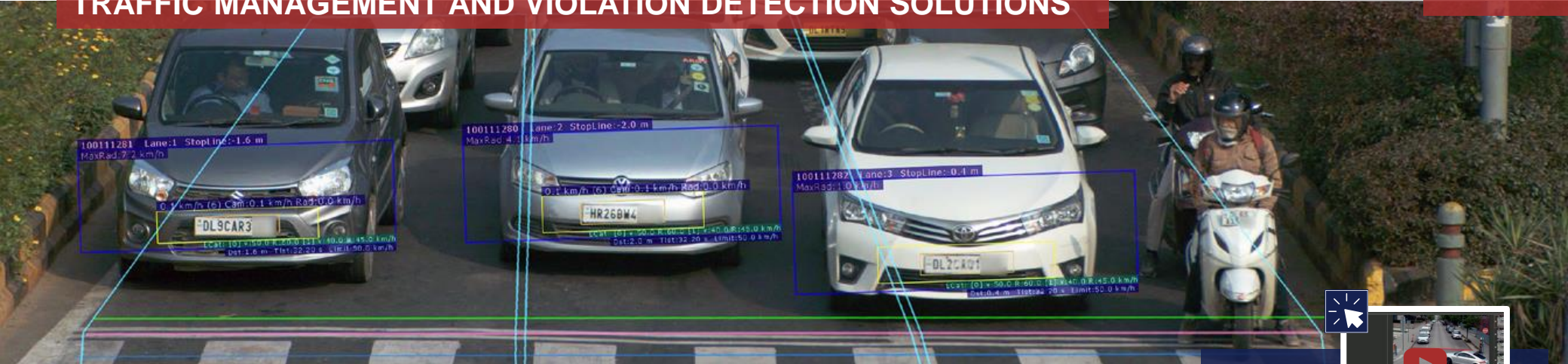Traffic Management - Armenia.
Traffic Management - Hungary.

CRITICAL INFRASTRUCTURE SECURITY
Presidential Palace - Kuwait.
Ministry of Defense - Egypt.
Sea Ports - Kuwait.
Egyptian Monument Authorities - Egypt.
Saudi Arabia Embassy - Geneva.

STADIUMS AND CROWDS PROTECTION
Manchester City Stadium - UK.
Beşiktaş Stadium - Turkey.
Türk Telekom Arena - Turkey.
Atatürk Olympic Stadium - Turkey.
Fenerbahçe Şükrü Saracoğlu Stadium - Turkey.
Several Stadiums - Russia.
Dubai Festival Plaza - UAE.
Manarat Al Saadiat Cultural Museum - UAE.
Pyramids Touristic Area - Egypt.

TRAFFIC MANAGEMENT AND VIOLATION DETECTION SOLUTIONS

Learn more about
SensorTec Traffic Management Solution

The primary goal of SensorTec Traffic Violation solution is to help manage the traffic flow and to maintain the security of daily traffic by automatically detecting and recording various types of traffic violations around the clock. The solution provides full violation management workflow from automatic detection till creating a compiled violation package that can be used by proper authorities.

AUTOMATIC VIOLATION DETECTION

SensorTec developed a complete system that automatically detects traffic violations. The detection methods rely on Video Content Analysis, multi-megapixel camera images and high-end 3D radars. Traffic violations are detected with unmatched accuracy both day and night, as advanced IR LASER flashes work synchronized with the cameras.

Detectable traffic violation types:
Overspeed | Stop sign | Red light | Bus lane | Wrong-way | No left turn | Parking

SensorTec

AUTOMATIC TRAFFIC FUNCTIONS

Learn more about
SensorTec Traffic Management Solution

Red Light Violation Detection.

Speeding Violation Detection.

V-Shape Violation Detection.

Wrong-Way Violation Detection.

U-Turn Violation Detection.

Bus Lane Violation Detection.

Stop Line Violation Detection.

One-Way Violation Detection.

No Parking Violation Detection.

Traffic Counting.

SensorTec

COMPLETE AUTOMATIC SYSTEM
Equip traffic areas with a complete, automatic traffic violation detection system that is able to detect various types of traffic violations.
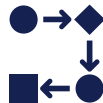
AUTOMATIC WORK FLOW
A system with an automated workflow, wherein only violation verification requires human resources.

HIGH DETECTION ACCURACY
High detection accuracy even in chaotic traffic environments.

RELIABLE OPERATION AT NIGHT
Accurately detect violations day and night, regardless of the lighting conditions.

CAPTURES All LICENSE PLATES
A clear and detailed images of license plates 24/7, regardless of whether they are reflective or non-reflective types.

LESS CAMERAS ALONG THE ROADS
Cover the maximum number of lanes with the minimum number of traffic cameras.

RUGGED HARDWARE SOLUTION
Implement a system that operates reliably even in extreme hot or cold environments.

SYSTEM EXPANSIONS FEATURE
Easily increase the number of surveillance sites in case of future expansions.
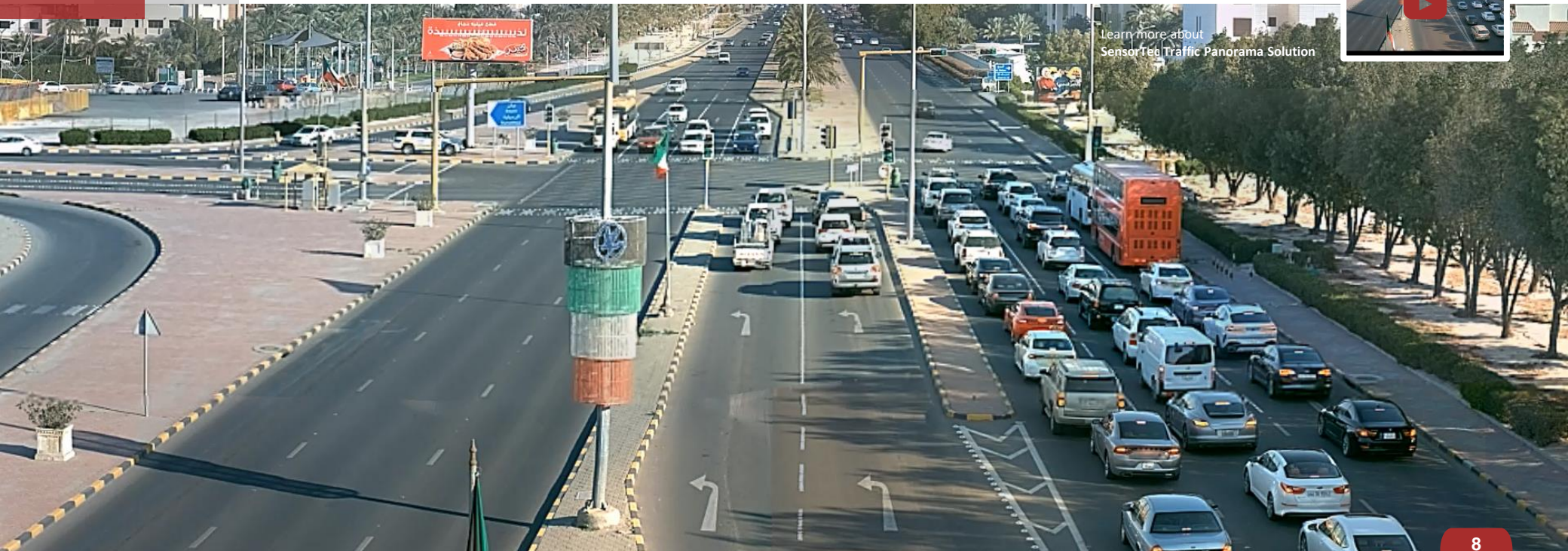
TECHNOLOGIES THAT MAKE US UNIQUE

PANORAMA TECHNOLOGY

4K or even higher resolution video technology has become common in video surveillance nowadays. But when it comes to monitoring large scale areas their coverage capabilities are nothing compared to the efficiency of high-end panorama cameras. SensorTec developed a leading-edge, multi-sensor panoramic technology, providing 200-320MP image resolutions with 20 FPS video stream and the display technology that makes it possible to seamlessly utilize the full resolution during monitoring. We developed a unique stitching technology that geometrically merges images at the image borders resulting in a contiguous panoramic image just as if it were taken by a single sensor camera. All the grouped sensors take their images synchronized, which ensures a glitch free display throughout the whole panoramic image. Thanks to the special stitching technology zooming and panning are seamless at the stitching borders as too.

Learn more about
SensorTec Traffic Panorama Solution

TECHNOLOGIES THAT MAKE US UNIQUE

Non-reflective license plate.

Reflective license plate.

ALTERNATING FLASH INTENSITY FOR NIGHT MONITORING

SensorTec created a special IR Laser Flash that is able to illuminate the desired area with alternating intensity. This technology is extremely useful when different types of license plates must be illuminated within the same traffic flow. The device is synchronized to the camera frame rate and it makes both reflective and non-reflective license plates visible even in complete darkness.

VIDEO CONTENT ANALYSIS

SensorTec engineers developed specific Video Content Analysis functions for automatic traffic violation detection. The VCA relies on object feature extraction and advanced positioning and tracking algorithms that accurately recognize and analyse the motion of objects in the images.


SENSOR FUSION AND ON-SITE RECORDING

SensorTec created a technology wherewith the information of the image sensor and the radar are fused, resulting in a more accurate speed and position analysis. It ensures a high-performance environment for calculation as data processing happens in the hardware. That means raw radar data is transmitted into the cameras that performs a fused object position and speed analysis based on video content and radar data.

SensorTec NVRs are vandal-proof constructions with metal outfitted enclosures and security locks that ensure they remain intact during on-site operation. Their integrated thermal system, which consists of heat pipes, heat sinks with fans and Thermoelectric Peltier modules makes them resistant to even extreme weather and environmental conditions.

3D MODEL OF VISUAL COVERAGE
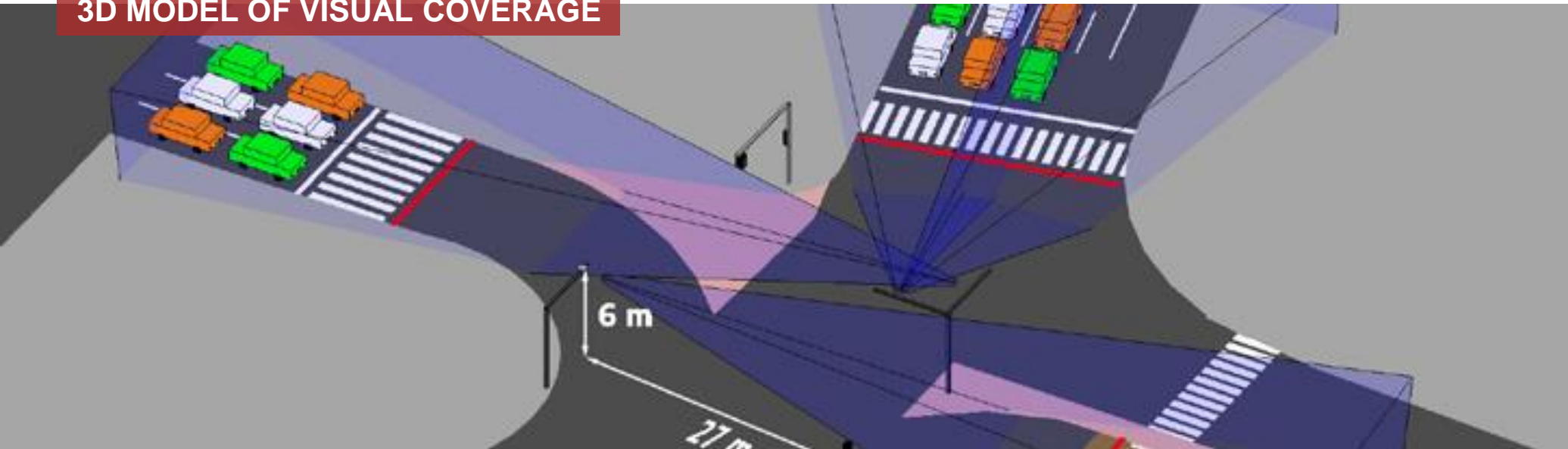
SensorTec starts each project creating 3D plans for all individual intersections or other surveillance sites near by roads. We take into consideration the location of available poles that may suitable for the SensorTec traffic cameras to be installed in the proper height and distance from the desired detection zone. After calculating the required resolution for the desired surveillance task, we create the accurate 3D model of each site with exact camera installation spots and generated camera views.
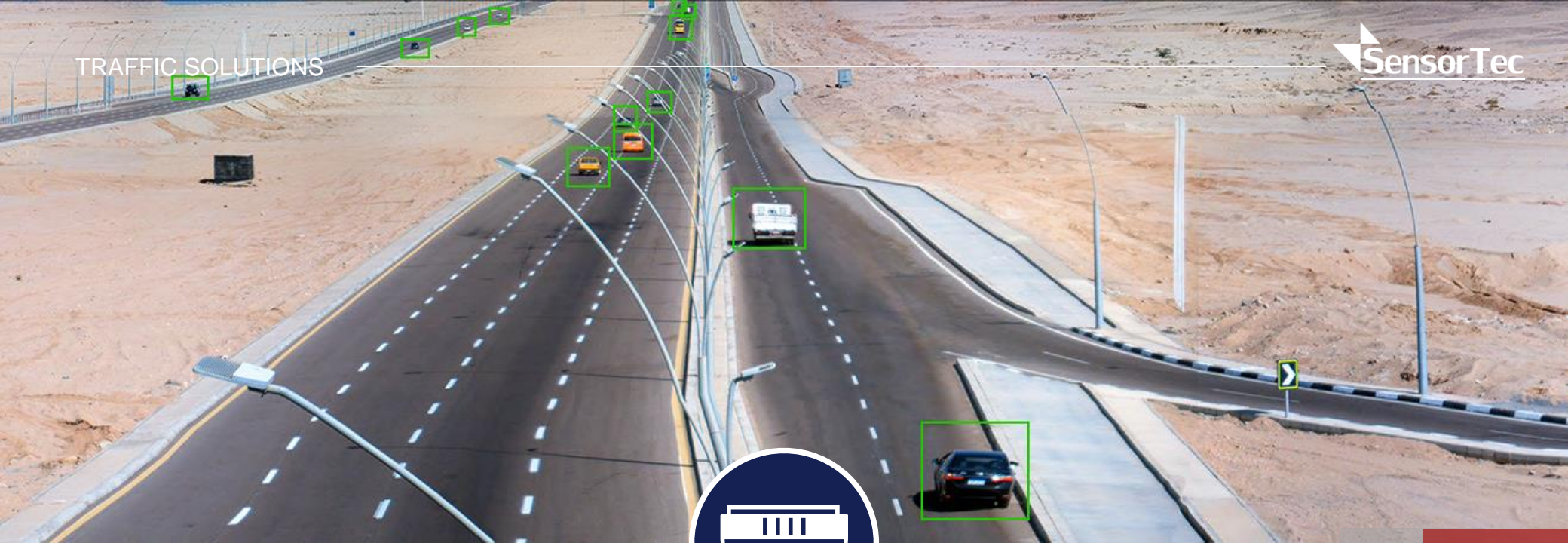

The Goal of The Design
Ensure the required pixel resolution, beside minimizing the project budget.
Ensure that the future system will exactly meet with the quality requirements.

Raw Materials for The Design
Terrain Maps (topographic or contour maps).
Site images and/or videos.
Site survey.

KEY PRODUCTS

## 200 MP PANORAMA CAMERA

PANORAMA VISION TECHNOLOGY

The SensorTec 200 MP Panorama camera effectively monitors vast areas from a single viewpoint. The device delivers 200 MP resolution video stream with 20 fps frame rate, which forms a revolutionary quality improvement in video surveillance. The precisely stitched panoramic images are produced by 10 pieces of high-end 1" sensors. They ensure high sensitivity, extra wide dynamic range, and improved low-light performance.

200 MP PANORAMA CAMERA FEATURES

- 180° FoV (Field of View), up to 1.5 km 2 area coverage.
- Full metal rugged design, available with marine grade materials.
- Stitched panoramic images with white balance correction.
- Zooming on the panoramic image as if it were a single image.
- Multiple zoom windows at the same time.
- Interactive PTZ control by selecting the area of interest in the panoramic image.
- Picture enhancement algorithms for foggy, rainy weather conditions.
- Automatic self-cleaning system.
- Active and passive cooling system.

180° 200MP
Day/Night Panorama Camera.
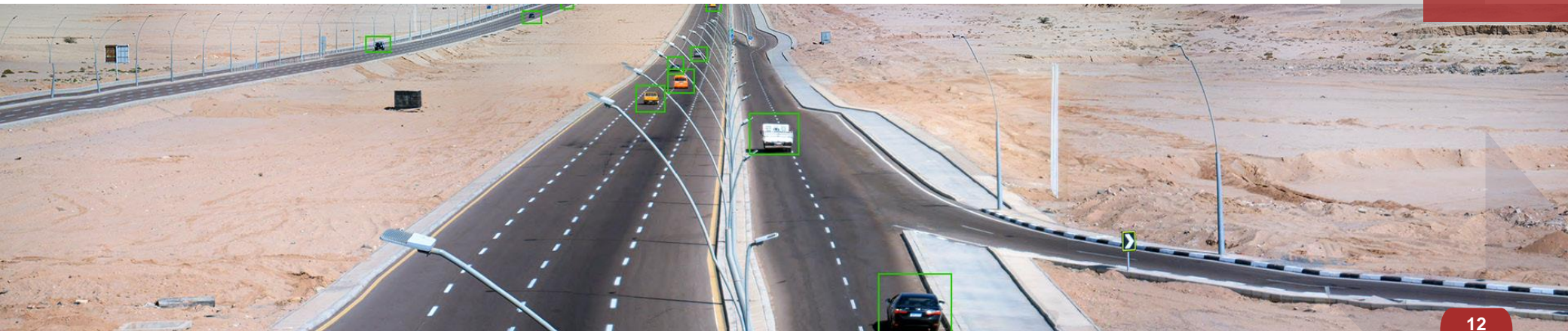
SPEED DETECTION RADAR CAMERA

The SensorTec Speed Detection Radar Camera system is used to detect multiple over speeding vehicles using the radar module, then sends the metadata to camera's VCA software which recognizes the over speeding vehicles and their number plates and sends it to violation management server. The Video Content Analysis module also can measure the presence and the speed of the vehicles within a designated area and detects speeding violation automatically. Besides the security footage, the system saves the vehicle's maximum speed in the zone. Single 20 MP camera provides an overview necessary for the VCA and high quality images required for an undoubted evidence for the local authority.

SYSTEM FEATURES
- Maximum detection speed is 309 Kmh.
- One module can cover up to 3 lanes with up to 7 simultaneous detections.
- Detection distance 68 meter.

Speed Detection Camera
With Multi-lane 3D Radar.

Learn more about
SensorTec Traffic Management Solution

20MP CAMERA

SensorTec 20MP camera brings a new quality in video surveillance. Thanks to its 1" sensor and specially developed Image Processing Unit, the camera provides excellent low-light performance, high sensitivity and a resolution that one finds in professional cameras.

The SensorTec 20MP camera delivers a 20 fps video stream at full resolution, therefore any motion in the footage seems continuous. The device uses the visually lossless JPEG2000 wavelet-based compression method, compressing each frame separately.

20MP CAMERA FEATURES

- A single camera covers large areas with high resolution.
- Multiple zoom windows at the same time.
- Picture enhancement algorithms for foggy, rainy weather conditions.
- Real-time camera image stitching to create panoramic view and zoom as if it were a single image.
- High Dynamic Range (HDR) technology.
- Optional external synchronized IR Flash.
- Optional radar for speed measurement.

20MP
Day/Night/IR modes Camera.

Zoom Area

DL9CAS3

3D MULTI-LANE RADAR

SensorTec Multi-lane 3D Radar works in smart cooperation with SensorTec 20MP Cameras. It provides precise object tracking, and delivers accurate speed and position information. Uniquely, SensorTec fuses the raw radar data with Video Content Analysis information, this way realizing a more reliable object tracking method. All radar information are stored in related image headers.

3D RADAR FEATURES

- Multi-lane 3D Radar.
- Accurate speed measurement up to 150 km/h.
- IP67 rated enclosure.

Multi-lane 3D Radar.
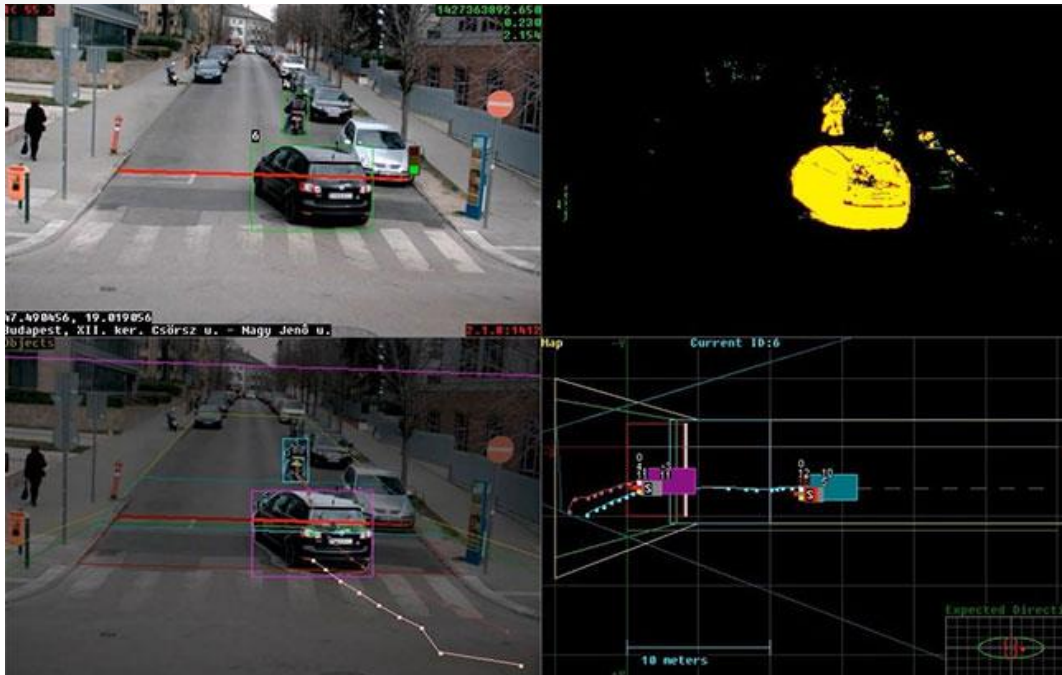
IR LASER FLASH

In extreme situations when only infrared light is valuable for the camera, the self-developed high-performance IR Laser Flash ensures the appropriate lighting for the camera to capture clear and sharp images. Thanks to its output power the SensorTec flash is able to effectively illuminate the target objects even at a great distance. The integrated IR Laser Flash works together with the SensorTec 20MP cameras. It is synchronized with the camera and illuminates the monitored object at every recorded frame with configured parameters. The IR Laser Flash features multiple power illumination mode, therefore both reflective and nonreflective license plates can be detected in case of traffic monitoring. Its light is focusable in order to have only the necessary area in light.

IR LASER FLASH FEATURES
- 500W output power with multiple power illumination mode.
- Varifocal illumination.
- Automatic self-cleaning system.

LASER Flash.

PORTABLE SPEED RADAR CAMERA

SensorTec Portable Speed Radar Camera is designed for widespread use under any traffic conditions. It is suitable for a wide range of applications under any light conditions. This assembly can be transported in a boot of any light vehicle or even carried in hand.

PORTABLE SPEED RADAR CAMERA FEATURES

- 3X1: speed measurement, ANPR and video recording.
- Low-weight measuring and power supply unit.
- Long operating time.
- Covers up to 4 traffic lanes.
- High-resolution black/white or color digital camera (up to 16 MP).
- Furnished with touchscreen display, tablet PC.
- Integrated battery charger.
- Communication through standard VGA, LAN interface, Wi-Fi.
- Simple presentation of images through special ARCHIV software with ANPR feature.

NVR OUTDOOR - TRAFFIC

The SensorTec NVR Outdoor was specially developed for the SensorTec Traffic Violation Detection Solution and Safe & Smart City Solution. Thanks to its massive, IP66 rated outdoor enclosure, it is able to cope with even extreme weather conditions.

The thermal control of the electronic components relies on a combined system of integrated heat pipes and fans, a Thermoelectric Peltier Cooler and sunshields. The device serves the SensorTec Cameras and reliably performs the recording of their high-quality video streams.

NVR FEATURES
- Built-in Video Content Analysis functions.
- Intelligent image transmission.
- Semi-passive and active cooling system.
- Fans and sun shields.
- IP66 box-mount, outdoor enclosure.
- Designed to work reliably in outdoor conditions.
- Built-in RAID function.
- VRM TM Fail-safe file system.
- Built-in UPS.

NVR Outdoor.

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, SensorTec design, supply and implement a high reliable wireless security solutions for border Security, traffic monitoring, ANPR, highway safety, city surveillance and many others.

SensorTec Wireless Solution boosting easy installation and maintenance, quick deployment, flexibility and scalability.
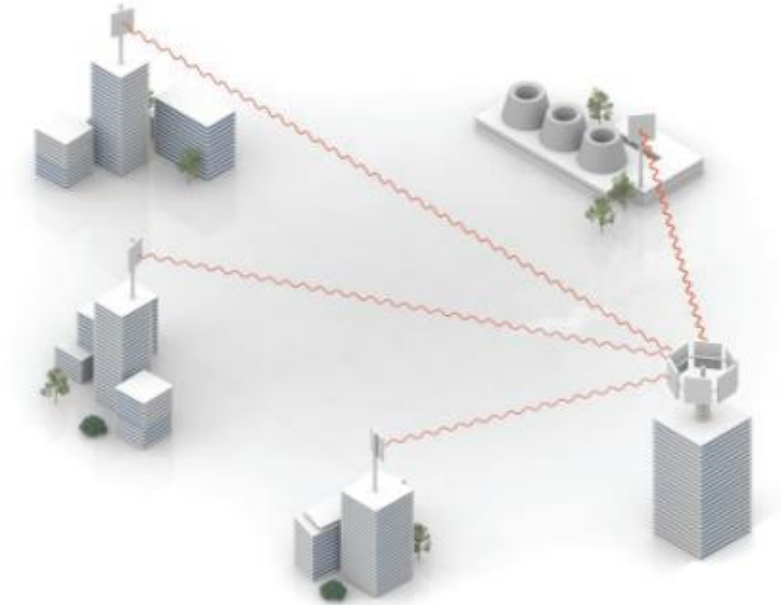
SensorTec

CONTACT US

SensorTec Security Systems
www.sensortec-eu.com | sales@sensortec-eu.com

UK Office
Sydney House,
62 Lancaster Way, Ely,
Cambridgeshire, UK.
+44 1353 523549

MENA Office
701 Thuraya Tower 1,
Dubai Internet City,
Dubai, UAE.
+971 4 367 0351 | +971 50 496 1750