



 **SILENT SENTINEL**
VISION & MOTION CONTROL



ABOUT

INNOVATION

Silent Sentinel was established in 2002 to design, manufacture and supply advanced, market-leading surveillance and security systems. Silent Sentinel is committed to developing products that are technologically advanced at a competitive price. As a company we are flexible and happy to work with our customers on a branded or OEM basis.

Our team has more than 50 years experience in the production of CCTV and ancillary equipment. We believe that our long-term experience and our passion to develop the best value solution is a winning combination.

Silent Sentinel has more than 30,000 units already in the market. We are an engineering house, not only manufacturing great value products but also capable of interpreting exact requirements into built products and much more.

CAMERA TECHNOLOGIES AND US

Silent Sentinel selects the best of breed camera technologies to incorporate within its professional camera systems. The range encompasses HD, 4K and MP Video, SWIR and both cooled and uncooled thermal. The new ultra-low light cameras can produce 4K colour video images down to an incredible 0.004 lux whilst the cooled thermals are now available with HD 1080P resolution. Each camera is matched to a high-quality lens, ensuring the optimum image quality is achieved at all times.

Camera technology is constantly evolving, and Silent Sentinel works in partnership with many of the worlds leading camera vendors to ensure that these latest technological advances are available to our customers first, often many months or even years before our competitors catch up.

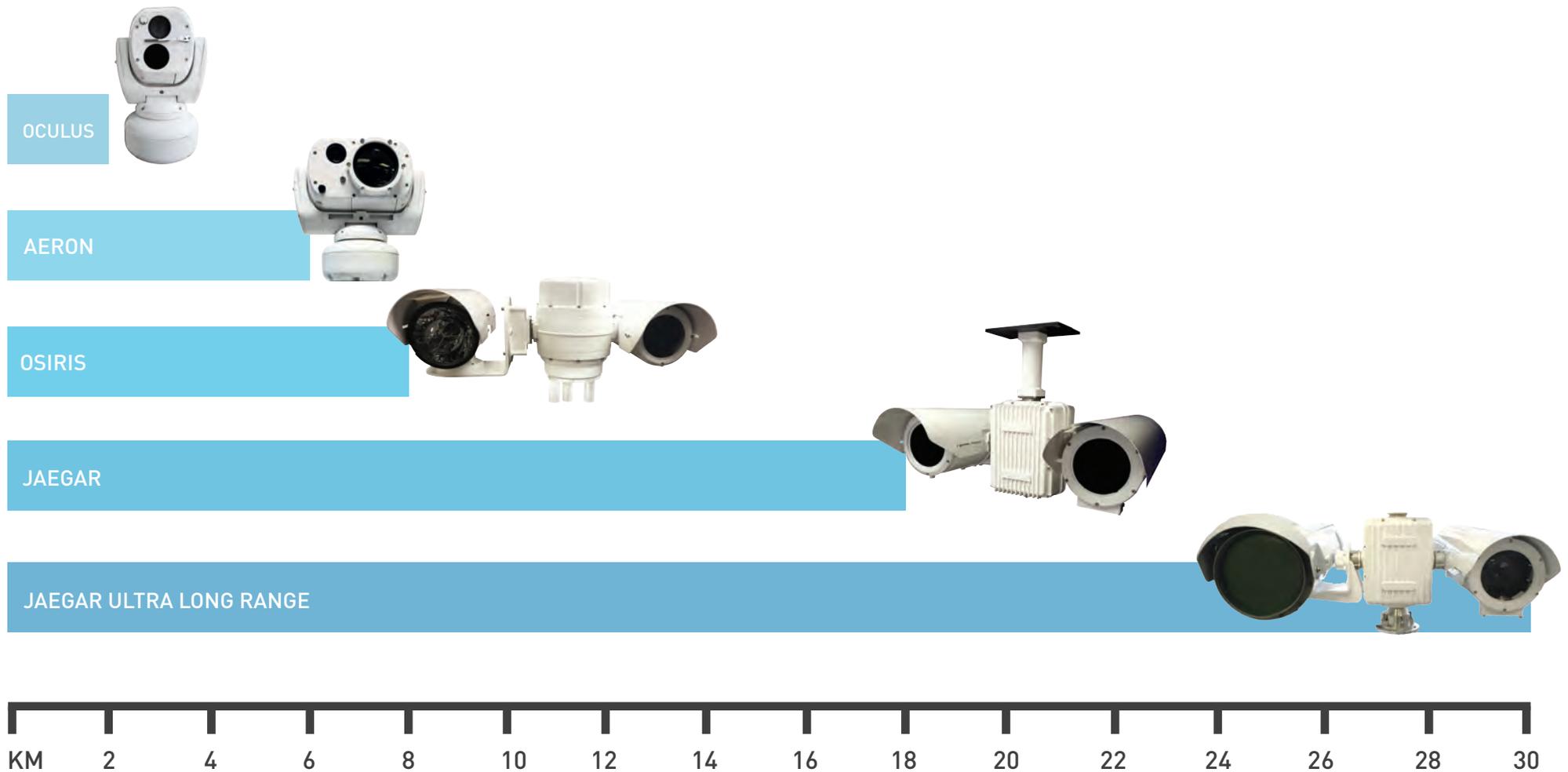
A broad range of camera platforms have been designed that allow the customer to choose the right technology to match their requirement perfectly.

APPLICATIONS

Silent Sentinel security platforms are deployed in many environments and situations with special features. Our core markets are:

- Homeland Security
- Maritime Surveillance
- Border Security
- Critical National Infrastructure
- Defence
- Asset Protection
- Vehicle/Portable security cameras
- Drone Detection
- Town/City Public Space Surveillance
- Airports
- Rail
- Waste Management and Renewables
- Fire and Heat Detection

SHORT TO LONG RANGE SOLUTIONS ALL FROM ONE SUPPLIER



COMPACT RUGGED PTZ'S

OCULUS

The Oculus is a compact, rugged, continuous rotation PTZ camera, designed specifically to withstand harsh and challenging environments. Built to an IP67 level of environmental protection, the Oculus is available with the latest HD lowlight camera modules and high resolution thermal imaging sensors. With over 20,000 Oculus camera installed across the globe; the Oculus and Oculus Ti is a well proven performer. IP and HD-SDI is available across the range.

AERON

Building on the success of the Oculus, the Aeron Ti shares many of the features of the Oculus, including a marine grade anodised aluminium casing and utilises the same range of video camera module. Due to increased size of the Aeron larger format thermal lens can be used; meaning the Aeron can deliver market leading thermal detection ranges within a compact and ruggedized enclose. These lenses include the very latest thermal zoom modules including a 35-105mm and a 50-150mm 640x480 thermal module.

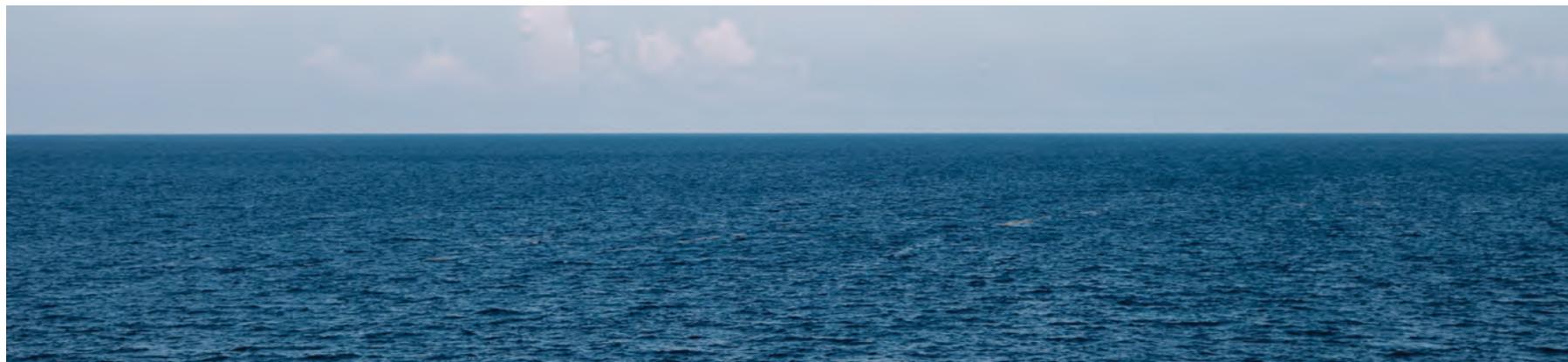
AERON COOLED

The Aeron TC is the perfect solution for long range surveillance applications, providing the best performance available within a marine grade rugged pan and tilt casing of this size. The Aeron TC employs a high resolution cooled camera 640x512 with 15µm HOT MWIR thermal imaging technologies to provide reconignition of small targets up to 8 kilometres and man detection at 10km. The Aeron TC also offers simultaneous video verification provided by a 40x SD zoom module or a 30x HD zoom module.

AVAILABLE NOW

GYRO STABILISATION

To meet demand from the maritime and mobile platform market the Oculus and Aeron are now available with 2 axis gyro-stabilization. The stabilization provides steady images in rough seas or terrain even when zoomed in on the target.





POSITIONERS FOR MEDIUM TO LONG RANGE APPLICATIONS

OSIRIS & JAEGAR

The Osiris has been designed specifically to meet the demands of the Homeland security sector, particularly when long range surveillance is required. Utilising Harmonic drive strain wave gears the Osiris is able to position heavier payloads accurately with virtually zero backlash, ensuring the capture of stable images even at very long distances over land or water meaning the Osiris is the obvious choice for border and maritime surveillance applications.

Using the same electronics and mechanical hardware that is found in the Osiris, the Jaegar's key differentiator is a through shaft, which allows a fixed payload to be fitted directly above the camera positioner. A wide range of thermal and video cameras are available, all supplied in cable managed housings for protection in the harshest environments. With harmonic drive gears as standard the Jaegar is virtually zero backlash ensuring the capture of stable images even at very long distances over land or water.

All Silent Sentinel pan and tilt systems are designed with absolute feedback as standard. So when twinned with radar or any automated control program it can be driven automatically to any threat detected and remain on target as the threat moves. As with all Silent Sentinel products the Jaegar can easily be deployed as a standalone system or combined to increase the performance.

KEY FEATURES

- 360° continuous rotation
- 0.02° - 100.0° per sec (ultra slow speed to 0.0002° selectable)
- Harmonic drive zero backlash gears
- Optical encoders for preset accuracy
- Automatic self position correction
- IP ONVIF and (MOXA) fast transmission control
- IP67 Environmental protection
- Unique cable managed camera rapid release mechanism



OPTICAL SENSORS

Silent Sentinel offer a comprehensive range of camera sensors. All are housed in a robust IP67 housing designed to withstand harsh environmental conditions. The sensors are all interchangeable using the unique cable managed rapid release mechanism. Boresight is supplied as standard to ensure the same FOV is available from any twin sensor system.

VIDEO FEATURE SET

- 4K, MP, HD and SD video formats
- IP, HD-SDI and analogue outputs
- Optical zoom up to 2000mm
- Digital zoom up to 8000mm
- Ultra-low light – colour images to 0.004 lux
- Image Stabilization
- Smart technologies
- Analytics

UNCOOLED VIDEO FEATURE SET

- 640x480 and 320x240 Resolution
- IP, HD-SDI and analogue outputs
- Optical zoom up to 300mm
- 9Hz and 25Hz
- Image Contrast Enhancement
- ITAR Free
- Smart technologies
- Analytics

COOLED VIDEO FEATURE SET

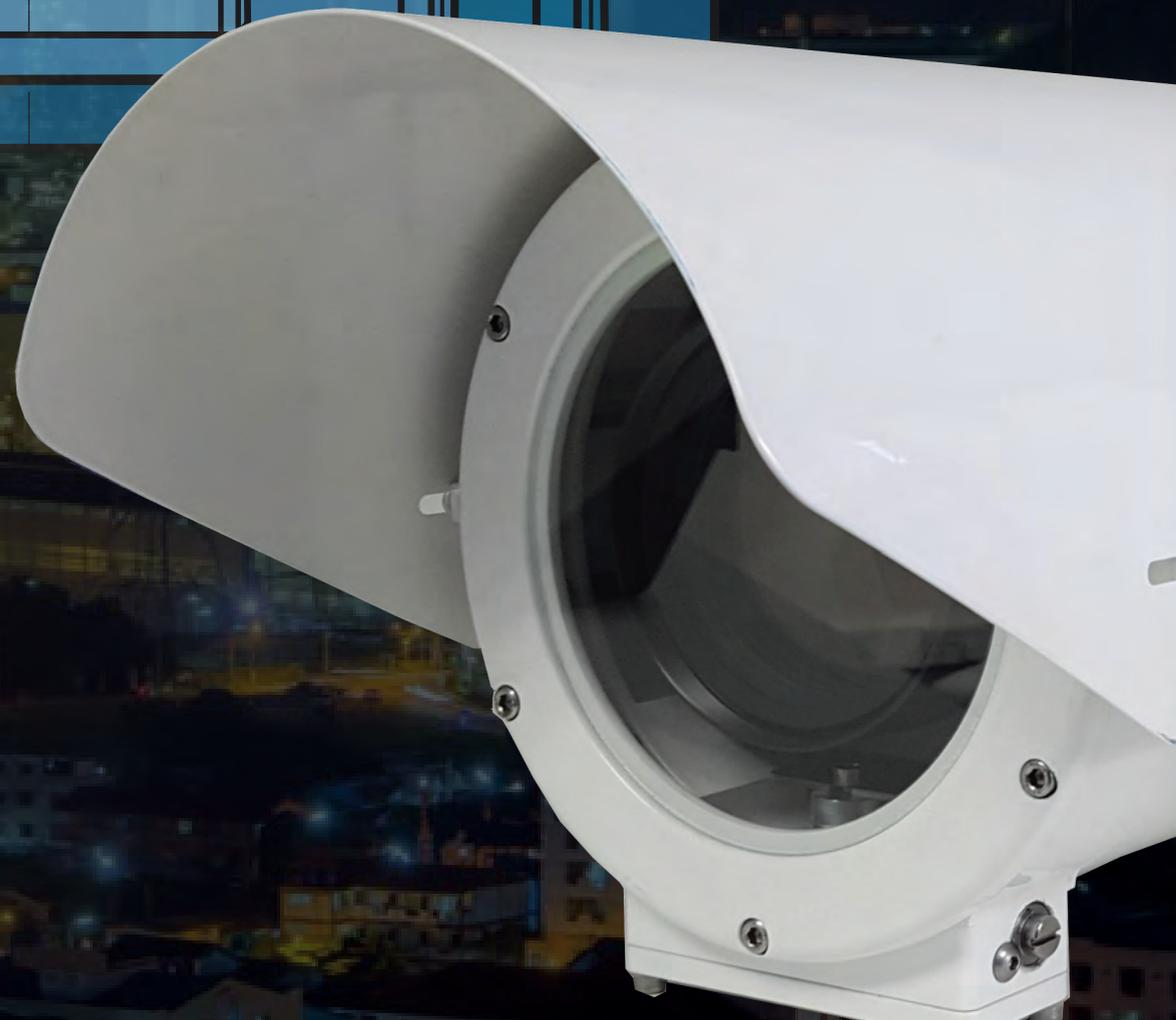
- 1080p and 640x480 Resolution
- IP, HD-SDI and analogue outputs
- Optical zoom up to 960mm
- Autofocus
- ITAR Free
- 9Hz and 25Hz
- Image Contrast Enhancement
- Image stabilisation



HT-07 XL

HT-07

HT-06



RADIOMETRIC THERMAL

The Radiometric sensor provides thermal alarming when temperature thresholds are exceeded, providing audible and visual alarms to protect valuable assets where the threat of fire, combustion or precise temperature measuring is required. The Oculus TI/R is supplied with both video and thermal modules as standard to ensure detection and visual verification of any event.

The Radiometric unit is a compact, rugged, continuous rotation PTZ camera that has been specifically designed for harsh and challenging environments. Utilizing the latest optical and thermal cameras, including thermal zoom modules, the unit can provide simultaneous video and thermal outputs providing instant video verification.

KEY FEATURES

- Detect hot spots through dust and smoke
- Advanced radiometric thermal alarming
- Temperature measured by colour scale
- Ability to set alarms based upon temperature readings
- IP and analogue variant
- Simultaneous video and thermal outputs
- IP67 environmental protection (IP68 option)
- 316L stainless steel option
- Temperature analysing to 400m
- 384x288 and 640x480 thermal cores available
- Multiple lens options
- HD video option
- Up to 12 zones per camera
- Accurate to 2°C



48.9
16.9
20.8
20.0

9.2
6.7
0.5
2.3



DRONE DETECTION

UAV AND DRONE DETECTION

The prevalence of UAV and Drones are causing considerable concern in the security sector. Silent Sentinel has developed a number of systems to combat this threat. The systems can detect, track and if necessary disrupt the approaching drone with a jamming signal. Silent Sentinel is able to discuss with any customer who wishes to conduct UAV and drone surveillance and advise the best method of deployment including if necessary adding complementary detection equipment sourced via our industry partners.

KEY FEATURES

- Long range reliable drone detection
- Drone tracking and automatic alerting
- Long range jamming in multiple bandwidths
- Intuitive software to track and slew to cue camera
- Multiple cameras sensor options





BRG	TYPE	LEVEL
65°	DRONE	UNCLAS
50°	UNKNOWN	UNCLAS
9°	UNKNOWN	UNCLAS
9°	TRUCK	UNCLAS



2 1 MAP

RADAR VIDEO
▶ NORMAL

TRACK TRAIL

HOSTILE

TARGET EDITING

DRONE_19

FRIENDLY NEUTRAL HOSTILE

28 kph
Position
51.942520°, 0.790008°

SMART TECHNOLOGY

FUSION

With state of the art image blending, thermal and camera pictures can be overlaid to eliminate the need for multiple screens. This provides an enhanced picture for tracking and detection. The objective of Digital Image Fusion is to integrate complimentary multi-sensor, multi-temporal and/or multi-view information into one new fused image. Rather than adopting the process of simply blending the two inputs using various ratios, the fusion engine is providing full digital signal processing on the inputs and is therefore able to apply and output a 'per pixel alpha blend' of the two selected input images. The result is the optimum image possible by combining the best detection capabilities of the sensors. As well as stepped zoom capabilities



FACIAL RECOGNITION

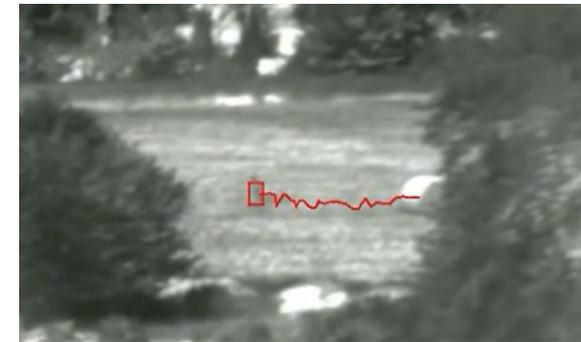
Market leading, non-conformant, Facial Recognition capability designed to detect, identify and recognise individuals in public / private areas. The FaceRec system supports both local and remote alerting based on recognition against target watch-lists of unlimited size.

Through direct integration with the Oculus IP Camera System Silent Sentinel can deliver a complete system to deliver an immediate standalone capability that is perfect for crowd scanning / public event security.



PTZ TRACKING

The most advanced, single camera, automatic PTZ following on the market. Designed specifically for outdoor use, this function tracks an object of interest at varying zoom levels. It has the ability to change object type mid follow (EX. A person entering a vehicle), continue to follow during obstructed views, changing aspects ratios (crawling, walking, etc) and varied speeds (walking, stopping, running). This is directly embedded into the Oculus and Aeron camera systems allowing it to be used as a detection capability in its own right or as second step analytics to enable target tracking alongside RADAR / Sensor slew-to-cue type systems.



STERILE ZONE MONITORING

iLids approved automated intrusion-detection technology, offers flexible, scalable video analytics for perimeter protection and is designed for small to large scale installations. The SZM platform is highly efficient and runs directly inside our camera systems, eliminating the need to upgrade network infrastructure should the camera estate increase in size. The SZM can be run on either our fixed or PTZ camera range with integration into Milestone and other leading VMS platforms. SZM is perfectly suited for deployed on a number of fixed cameras spanning a perimeter, upon detection of an intrusion a more capable, central, PTZ camera can be used to provide oversight and target tracking.



RAPID SITE SECURITY (RSS)

The Rapid Site Security system comprises of 10x ground sensors (also available in 5 and 20 node sets) and an Oculus HD IP combined thermal and daylight imager. A single ground sensor can be deployed in 30 seconds and is capable of reliably detecting person and vehicle movement at ranges up to 25m and 100m respectively. Upon detection the Oculus slews to the node in question and raises an alert to the user. A single RSS system can cover up to 800m for person detection and 3km for vehicles. The RSS also has integration with leading VMS platforms such as Milestone and Genetec.



ANPR

Silent Sentinel is pleased to offer a fully integrated Automatic License Plate Recognition capability that can be run from either the Oculus or Aeron camera systems. It can read license plates of vehicles travelling at speeds up to 300Km/h, raising local or remote alerts should it match any to a watch-list. The capability has full integration into Milestone passing Video and Alarm information should a license plate be recognised.

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