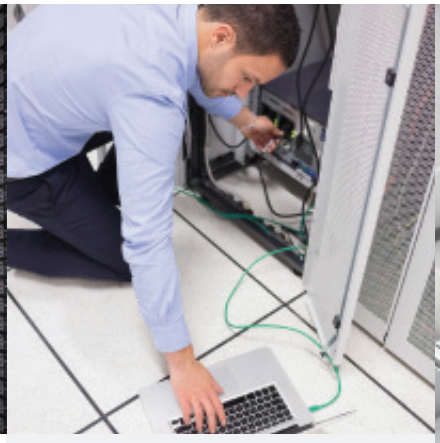
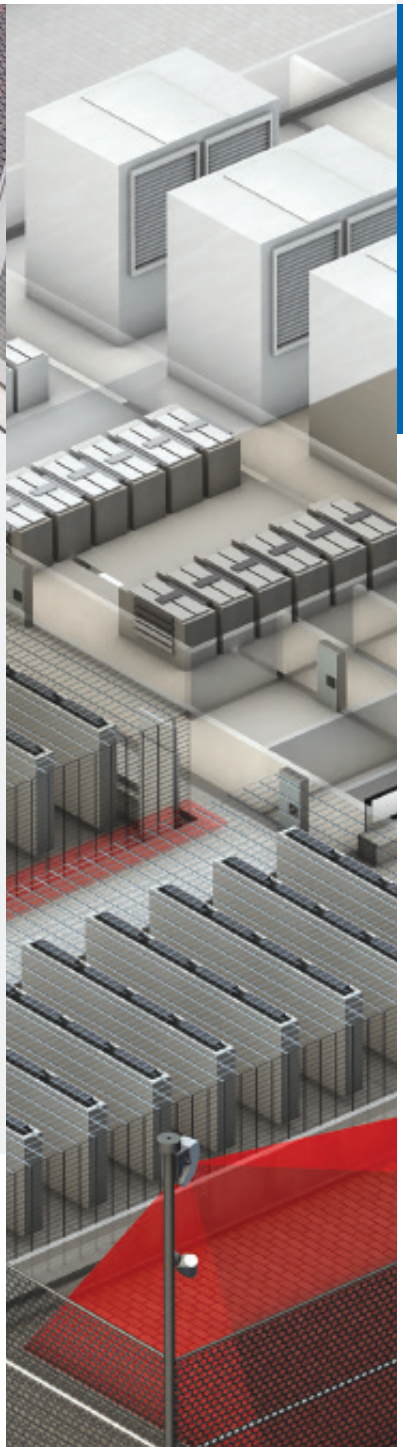
OPTEX
Sensing Innovation

Securing Data Centres

Against intrusion, unauthorised access and data cable tampering





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Securing Your Data Centre

Data centres need to be as secure as a fortress to avoid any intrusion, unauthorised access and any attempt to tamper with critical data or equipment that ensures smooth operation.

OPTEX provides a range of intrusion detection systems that help protect every layer of data centres, from the perimeter to the access to critical assets inside including generator rooms and server racks. OPTEX also offers a fibre optic system designed to protect the network cable at its physical layer.

Security starts at the perimeter (1)

The first layer of security for a data centre starts at its perimeter. Walls or fences are a good deterrent, but can be defeated; intruders can cut through or climb over a fence, or even jump over it from the top of a van or an adjacent building. That's why it is usually recommended to have two layers of intrusion detection; this could be a combination of a fence/wall detection system with an additional layer of virtual wall to cover the top; thus providing a "double-knock" approach that also reduces any false alarms, but increases the probability of detection.

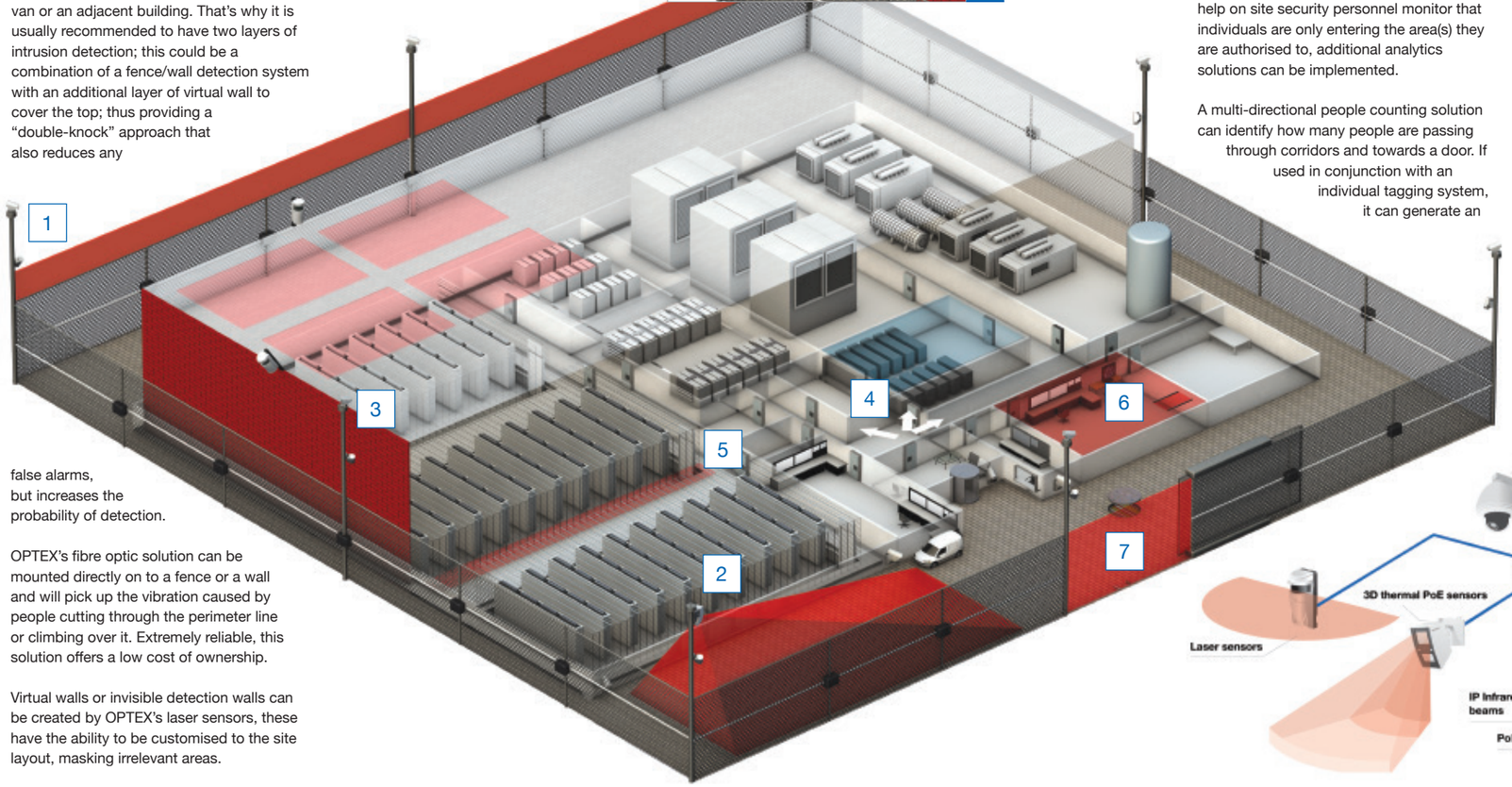
OPTEX's fibre optic solution can be mounted directly on to a fence or a wall and will pick up the vibration caused by people cutting through the perimeter line or climbing over it. Extremely reliable, this solution offers a low cost of ownership.

Virtual walls or invisible detection walls can be created by OPTEX's laser sensors, these have the ability to be customised to the site layout, masking irrelevant areas.

This technology is unaffected by lighting and harsh weather conditions, making it a valuable and versatile outdoor intrusion detection tool.

In field protection (2)

If intruders have passed through the perimeter line it is critical to know their whereabouts. This can be achieved using a combination of thermal sensors that recognise the difference between the human body and ambient temperature, and PTZ cameras that point towards the detection area to provide visual verification.



OPTEX offers a selection of mid- to long-range 3D thermal sensors that cover areas from 30m by 20m to 100m by 3m, and a number of independent detection areas to match PTZ pre-set positions.

Building and roof intrusion detection (3)

Criminals have on occasion managed to access critical areas or data rooms by drilling holes in walls, while others have broken in through flat roofs and skylights. Roof and wall protection shouldn't be overlooked and should be treated as another layer of security.

The roof can be protected from outside using sensors and cameras on the roofs, or from inside by creating a false/virtual ceiling. Although the latter captures the break-in at a later stage, it has the benefits of the cameras and sensors not being impacted by animals or harsh weather conditions.

For wall protection, OPTEX suggests using either fibre optic sensors fixed to the wall, or a virtual wall created by the laser sensor. For outdoor or indoor roof/ceiling protection the laser sensor is ideally suited.

Controlled access within data centre (4)

Every area of a data centre is clearly compartmented and each room has restricted access to authorised people. To help on site security personnel monitor that individuals are only entering the area(s) they are authorised to, additional analytics solutions can be implemented.

A multi-directional people counting solution can identify how many people are passing through corridors and towards a door. If used in conjunction with an individual tagging system, it can generate an alarm if a person is supposed to turn left into the authorised corridor, and ventures right into an unauthorised area. OPTEX can provide such solutions that achieve over 95% accuracy.

Some authorised personnel could let unauthorised individuals in, and this can be identified using a piggybacking and tailgating detection solution. The solution will analyse the scene and compare it with the rules defined in the system: if the rule is one card has to be swiped per person, the system will deny access if two people are present.

Server protection (5)

Servers hold the most sensitive business information and need an extra layer of security to ensure they are not tampered with. Floor voids have been identified as a potential weakness in accessing servers and vigilant data centres are also looking at having these protected. Creating a virtual wall will detect any intrusion and can be achieved using OPTEX's laser technology.

Indoor detection (6)

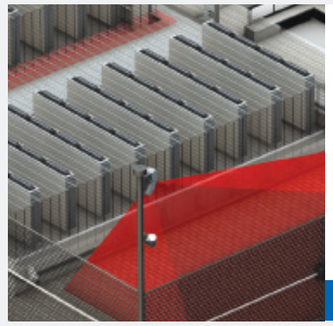
Every room needs to be protected in a data centre, it is recommended to install internal intrusion sensors that trigger an alarm or a camera in case of intrusion.

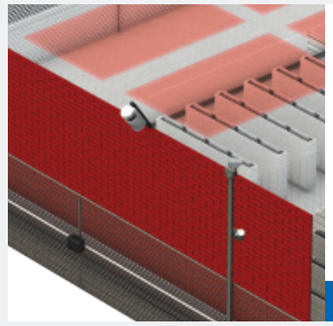
Physical Cable Network protection (7)

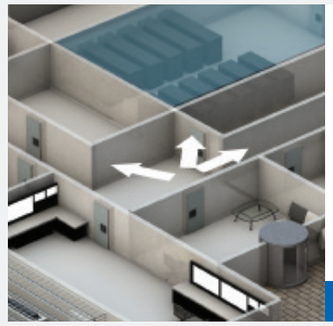
Cables form the network backbone by transmitting all data and yet can be vulnerable to intruders tapping into their streams. One of OPTEX's companies, Fiber Sensys, has developed a solution that detects any tampering to the data cable. This could be the ideal solution to guarantee that no-one is accessing the cables from the inside of the building or through access points beyond the secure perimeter.

Integration with all major CCTV players

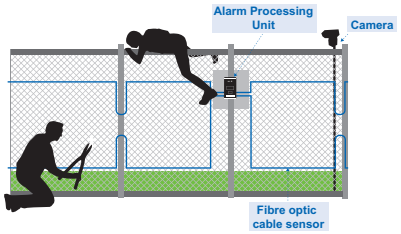
Detection is the first step of a reliable event-driven security solution, so OPTEX has partnered with all major video management software manufacturers to provide an easy integration with all its IP sensors.



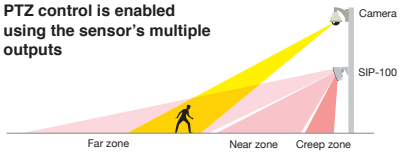




Overview of OPTEX solutions for protecting data centres



Perimeter Security | Facade Protection | Wall/fence climbing detection



Fibre-optic perimeter intrusion detection sensors

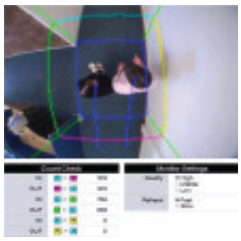
Fibre-optic sensors detect people cutting through or climbing onto a fence or wall and will range from 1 zone to 25 zone solution. They are suited to protect perimeters ranging from a few hundred meters to over 20 kilometres.

Laser sensors

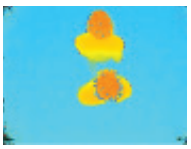
Unaffected by lighting condition, the laser sensor can be used vertically to create a virtual wall or horizontally to create a detection layer. It analyses the size, speed and distance of a moving object within 30m radius and is highly customisable, enabling multiple detection or masking zones.

3D thermal sensors for infield detection

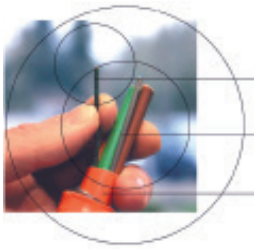
Thermal sensors provide volumetric detection by sensing both movement and presence using the difference between human body and ambient temperature. They feature independent detection areas to trigger PTZ cameras pre-set.



Two persons; side by side



Two persons; piggyback



Fibre-optic Sensor Cable

Network Data Cables

Optional Cable Embedding in Armoured Jacket

Multi-directional people counting and flow analysis

This video analytics based solution enables you to analyse extremely accurately how many people have been through a doorway and which direction they took. Dashboards and alerts can be customised.

Piggybacking and tailgating solutions

This "time of flight" camera, unaffected by lighting conditions, measures the distance between the object and the camera generating a 3D analysis of the scene and detecting situations such as two people side by side, or piggybacking. This solution can be easily integrated to existing access control systems.

SecureLan: physical cable network protection

SecureLan by Fiber SenSys is a fibre-optic intrusion detection system that will detect any tampering to the data cable network by sensing people physically accessing the network cables.

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