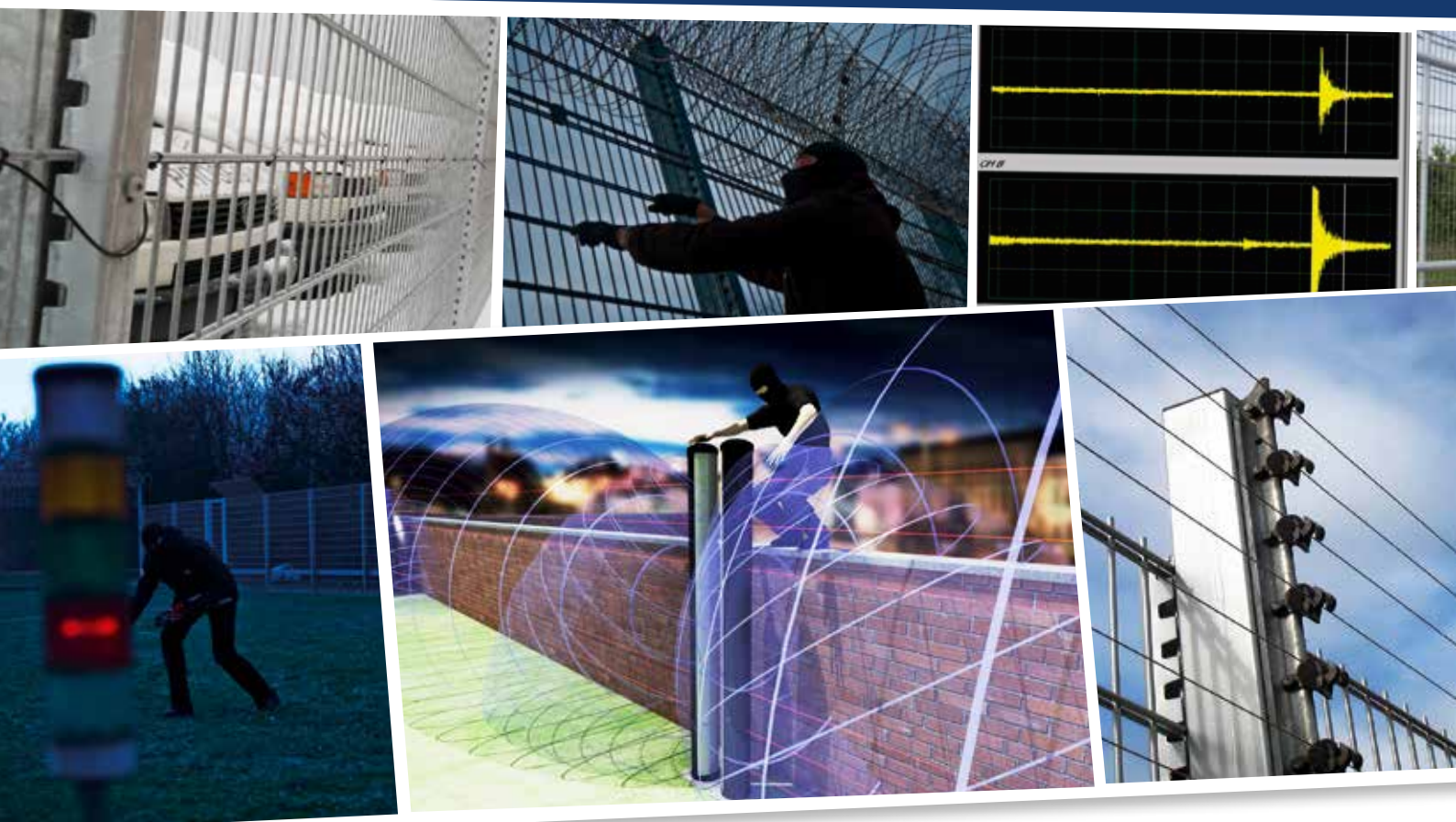
Outdoor monitoring

- no chance for vandalism, theft or sabotage!



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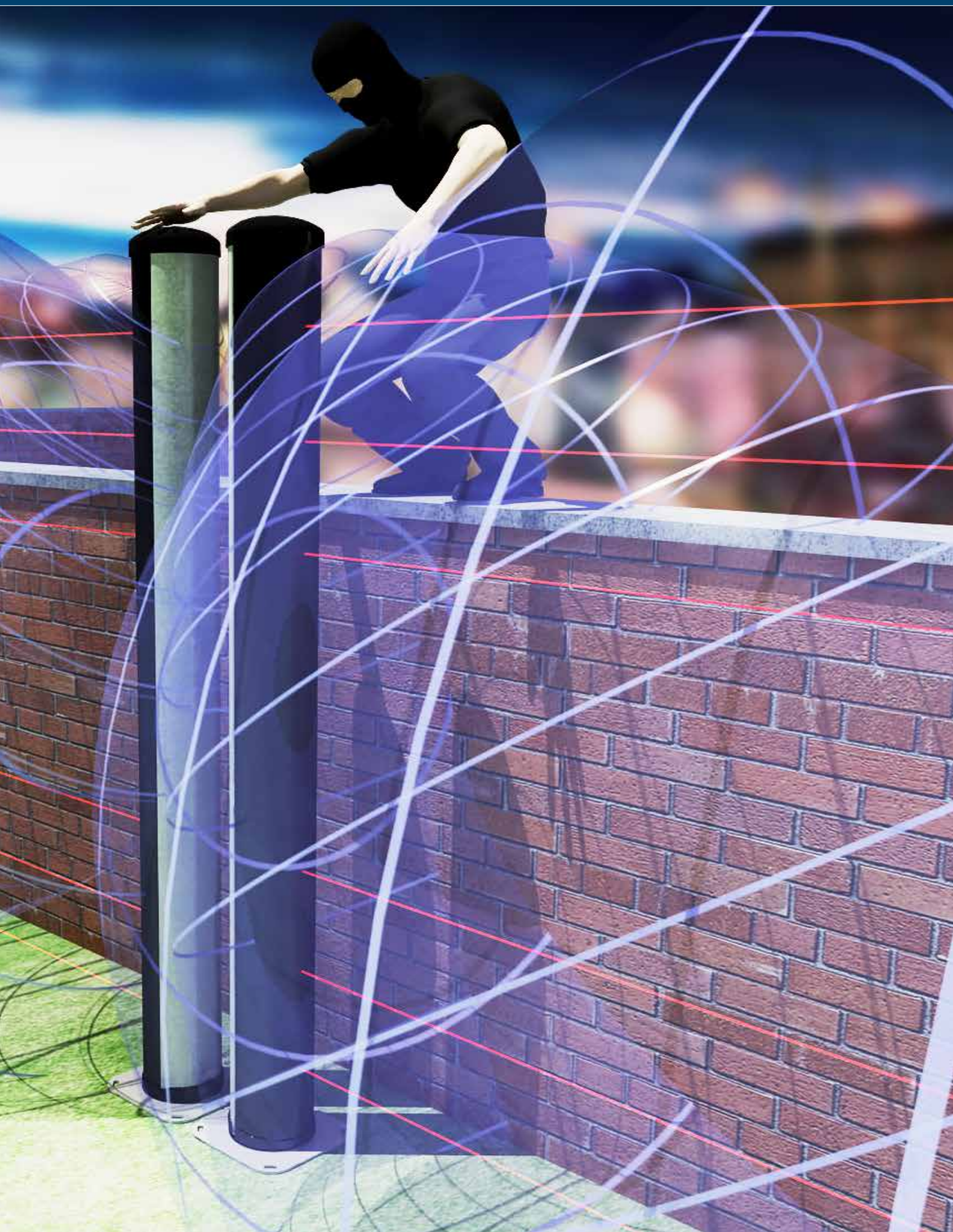
WEGO PERIMETER PROTECTION



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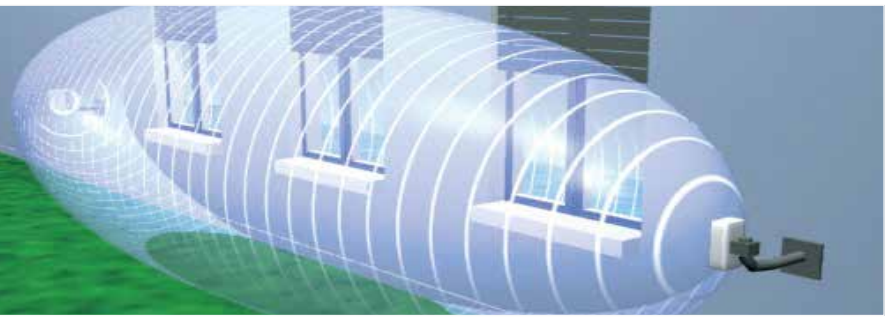
Certified security

PPG has been awarded “BHE specialised company for outdoor monitoring systems” by the German Federal Association of Safety Technology!

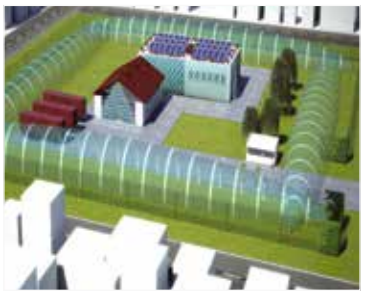
VOLUME MONITORING

Intelligent microwaves for sprawling outdoor monitoring

The microwave system WaveSec is based on the production of an invisible electromagnetic field established between a transmitter and a receiver. Once a person or object moves into this elliptical area, a field change is generated and an alarm is reported. In this case, the system interprets and uses the objects volume and speed of movement in order to avoid alarms caused by non-critical factors.



WaveSec is preferably suitable for flat terrain to ensure an unobstructed „view“ between transmitter and receiver. These can optionally be mounted onto posts in the terrain or on wall brackets, e.g. for mounting on house walls. It is important to ensure that there are no loose objects at the edges of the monitoring fields, such as branches, bushes or gates that could move in the electromagnetic field in case of occurring wind. WaveSec is completely independent of the soil but it is advisable to keep the landscape as flat as possible as well as to keep lawns and plants short. Weather does not affect the reliability of the system. It is easy to install and low maintenance. Further more it offers a long-term durability.



WaveSec contains digital signal processing, which provides very high detection reliability due to use of Fuzzy Logic. The system is equipped with an integrated Audio-Video-adjustment device and thus provides a mathematically precise evaluation. It monitors straight line sections between 15 m up to several 100 m. The distance between the barriers should be about 50 - 200 m. For larger ranges it is advisable to use several barriers. Radar sensors are also suitable for installation on walls, facades or fences. These systems bundle electromagnetic waves that are sent into the environment. If an obstacle generates an echo it can be received as a signal and evaluated. It is then possible to define the distance, speed and angle of the objects position.

WaveSec at a glance

- Microwave barrier
- Wide measuring range and high accuracy
- Range up to 200 m
- Volumetric field
- Real-time data processing
- Stand-alone or BUS compatible system
- Relay alarm output
- Individual project planning

Typical application areas

- Prisons
- Airports
- Military sites
- Ministries
- Power plants
- Forensic clinics
- Industrial sites
- Scrap or scrap metal dealers

AREA MONITORING

LaserSec - precise detection for indoor and outdoor applications

Contact-free laser scanners scan their surroundings without reflectors or position marks. The measuring sensors operate by following the principle of pulsed light detection and ranging (LIDAR). Internal pivot mirrors deflect an invisible laser beam into individually adjustable monitoring fields for a two-dimensional scan. The reflection of an object is registered within the systems receiver. Occurrence and intensity can be measured in case of violation of a pre-set threshold value for the calculation of the objects contour.

Depending on requirements or environment, LaserSec can easily be mounted vertically or horizontally to walls, facades or on roofs without large installation or cabling work. Several laser scanners can be arranged as desired, since no interference exists. For facade monitoring, the ground contour or enclosure serves as a reference contour, which is continuously checked for their existence (distance measurement). Deviations, e.g. due to ground motion (undermining) or manipulation attempted disassembly) trigger an alarm. Fixed obstacles can easily be hidden. On roofs the field edge can be placed beyond the roof, e.g. for an early detection in case of ladder placement.

LaserSec processes information reliably by its unique algorithm and thus minimises spurious alarms. Its adjustable recognition algorithms and intelligent detection analysis function or scene selection (Outdoor, indoor, interior ceiling/walls or vehicles) expand the scope of application. An integrated heating allows outdoor use even at below 0° Celsius. The patented automatic fog correction and additional filter settings provide a high insensitivity to weathering such as fog, rain or snow. Due to its dynamic measuring principle, LaserSec is independent of object light and secured against interfering light.

LASER SCANNER LASERSEC

LaserSec at a glance

- Searching two-dimensional laser scanner
- Non-contact optical measurement
- Background or subsoil do not affect the measuring
- Data in real time for fast response times
- Easy installation and commissioning
- Self-checking, no external test measuring required
- Excellent price performance ratio

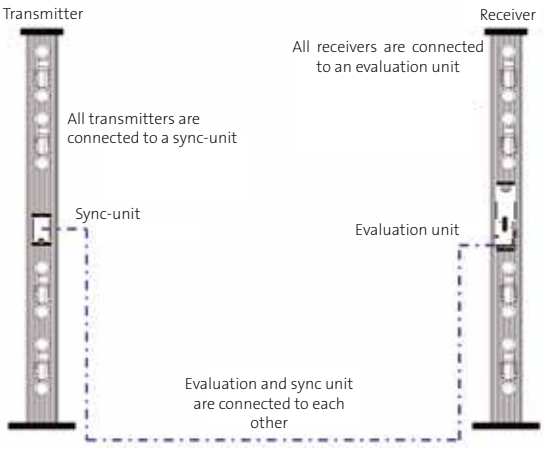
>> LaserSec - space saving, easy to install and very cost efficient!

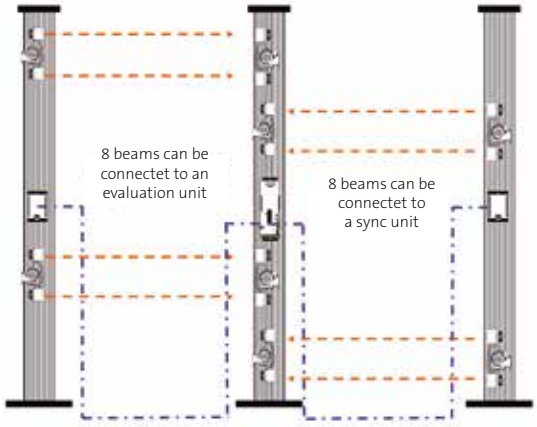
ACTIVE INFRARED BEAMS

Discreet and reliable protection with InfraSec

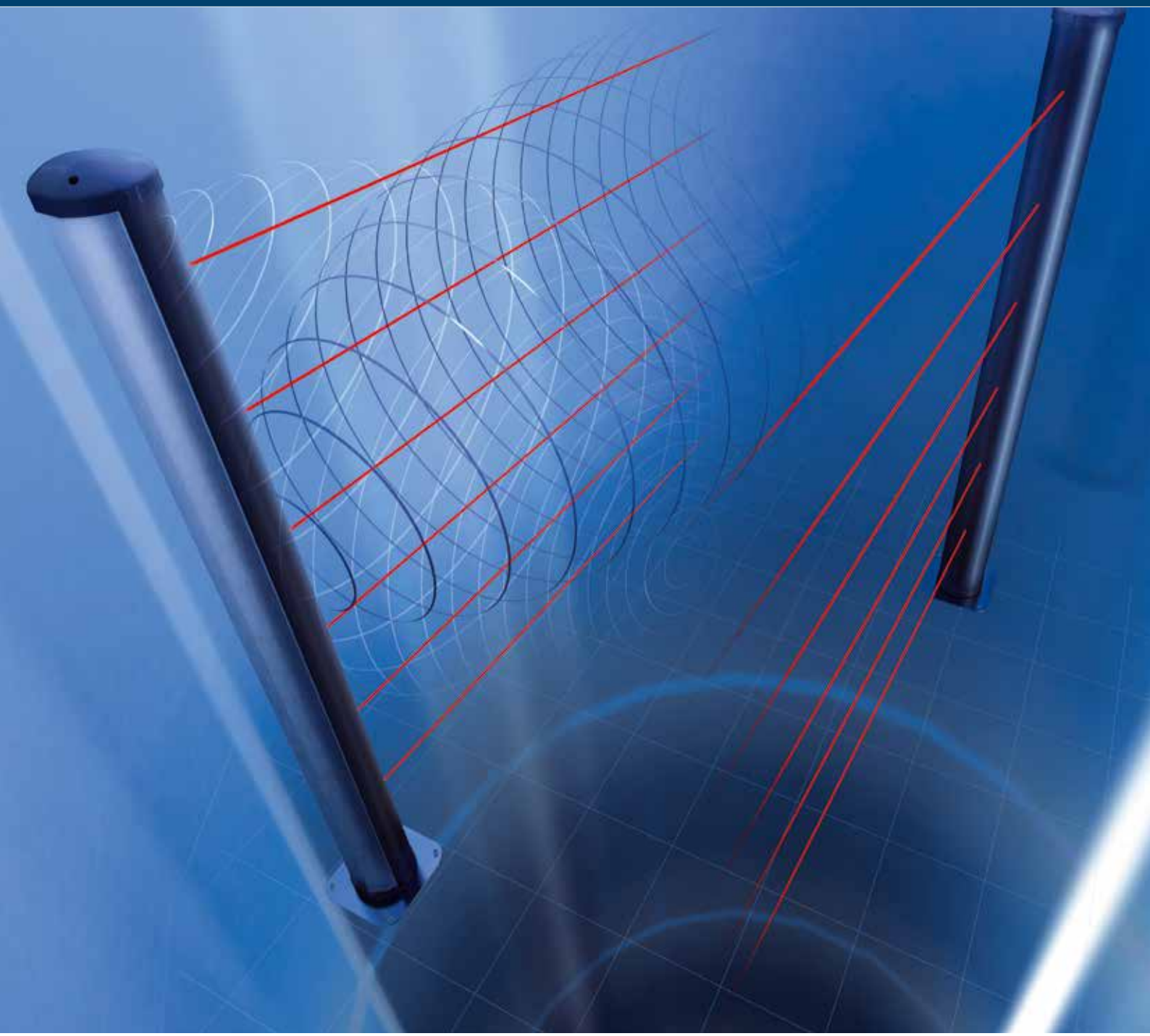
Active infrared beam sensors usually consist of a transmitter that emits invisible infrared light and a receiver. Infrared diodes emit this light in the frequency range between 800-950 nm. A concentrator evaluates the received optical signals. If the light beam is interrupted for the duration of the pre-set crossing time an alarm is triggered.

The rectangular detection area requires opposed mounting of transmitter and receiver. In special cases, an assembly of these two components in the same housing is possible as well. This solution then requires an opposite reflector. Single-beam and multi-beam applications are possible, depending on requirements. Severe weathering, such as dense fog, rain or snow may lead to a disturbance of the signal. This also applies to double exposure due to low intervals of several transmitters and receivers.





Infrasec is insensitive to mechanical oscillations and atmospheric influences. Moreover, it is immune to sun exposure and continuous lighting. In case of reduced visibility between transmitter and receiver (due to fog, heavy rain, snow), an Automatic Gain Control circuit restores the optimal level of infrared light reception. If the conditions change, the signal is adjusted to an appropriate level. With signal strength of less than 2%, a disqualification alarm is triggered. With InfraSec the rate of unrequested alarms is minimised, thanks to its microprocessor technology. Even attempts at sabotage are thereby efficiently detected.



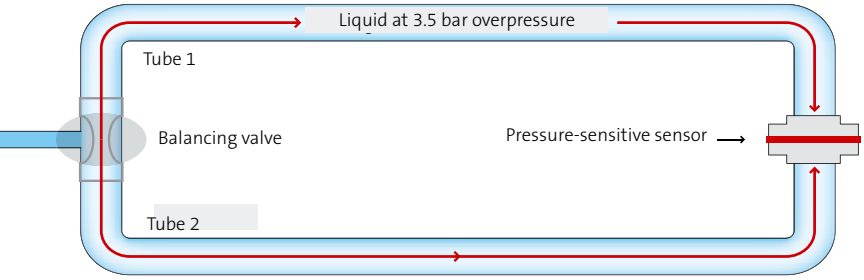
InfraSec at a glance

- Active infrared system
- Outdoor area and perimeter monitoring
- Resistant to sunlight and other lighting
- Automatic Gain Control
- Maximum detection range (indoor):
  - depending on the model 200 - 250 m
- Maximum detection range (outdoor):
  - depending on the model 200 - 150 m
- Operation of up to 64 periphals (analysers) with one central unit for the protection of large properties

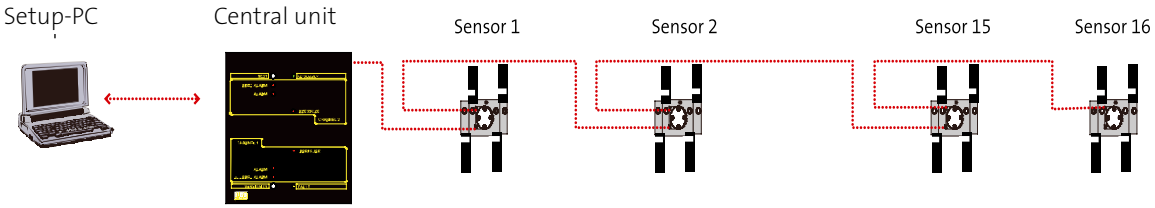
GROUND DETECTION

Invisible and tamper proof ground detection with GroundSec

The passive ground detection systems GPS and PPS, together subsumed under GroundSec, are laid underground and thus invisible or location-free systems, based on pressure-changes. GroundSec can´t be detected by any instrument, such as metal detectors or alike. The seismic systems respond to impact noise and are completely insensitive to electromagnetic fields or interferences. If the secured zones are crossed, underground-pressure-sensitive sensor hoses detect pressure changes by their special liquid filling. A microprocessor-controlled signal processing with intelligent software evaluates all events. This differs among others also between the type of alarms such as pre-alarm, main alarm or technical alarm. Depending on the requirements a stand-alone or bus-compatible system structure is available.



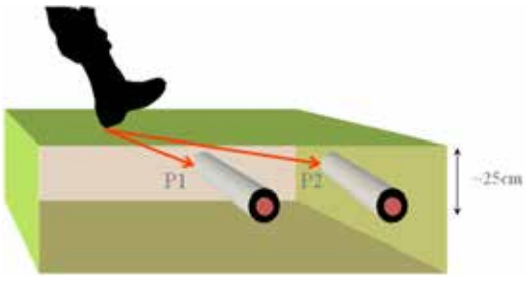
According to its features, GroundSec is ideally suited for sensitive areas with high security requirements, such as military premises or prisons. Due to increasing crime, ground detection systems are more and more used in industrial or commercial sites as well. Installation is possible for almost any ground type, except concrete. Also rough, uneven terrain and different types of ground structure are not a problem since continuous automatic pressure-equalisation between sensor hoses consists. The passive function provides insensitivity to weathering and environmental influences. However objects should not be placed close to the detection system that generate pressure fluctuations (e.g. pumps) .



GPS allows detection per zone. PPS is an advancement of the GPS system that provides the ability to set zones by software and to locate events with an accuracy of up to 5 meters. Due to that, the system is very easily integrated with pivot-cameras or drone systems. Fixed cameras are also suitable for the combination with PPS due to their camera zone ranges of about 30-40 meters. GroundSec is easy to maintain since only the inflation pressure has to be checked regularly. Therefore there should be maintenance manholes where the hoses run through, which are included within the protected area.

GroundSec at a glance

- Seismic ground detection systems
- Systems can´t be seen and offer a high detection rate
- Tamper proof
- Follows every ground contour
- Resistant to environmental influences
- Stand-alone oder BUS-compatible system structure
- Easy to maintain
- Low rate of spurious alarms

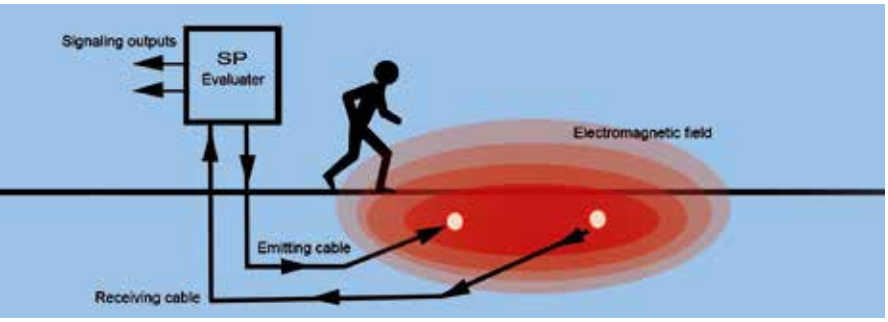


>> Underground-pressure-sensitive sensor hoses with the GPS/PPS system

GROUND DETECTION

RFC - invisible protection for sensitive areas

The radiofrequency detection cable system RFC consists of subterraneous emitting and receiving wires that detect unauthorised accesses. By means of the so-called leakage coaxial cable technology, the system detects fluctuations or changes of an electromagnetic field, which is rising from the underground. If necessary the evaluation unit that generates and monitors the detection field, triggers an alarm in case of entry of an intruder. Previously, the signal change is evaluated by a parameterised evaluation algorithm. PPS evaluates the effects on the detection field by electrically conductive mass, motion and speed. Thus, e.g. small animals can be omitted.

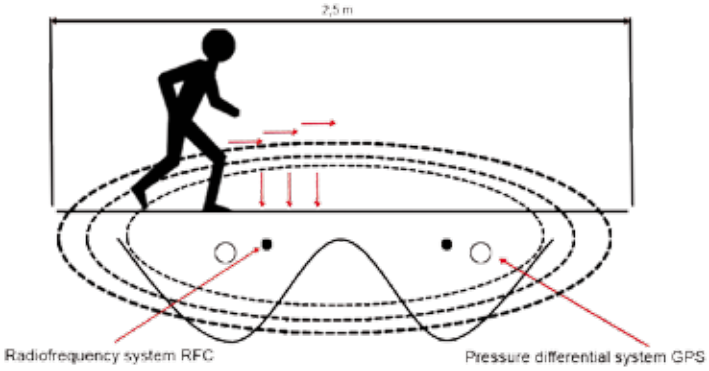


Due to its features, RFC is ideally suited for sensitive areas with high security requirements. The sensor wires can be laid in the earth, as well as in solid surfaces such as asphalt or concrete. Crucial here is the burial depth, which should be adapted to the soil conditions. This determines the field size - in conjunction with soil, distance of the cable, set parameters and mass of the intruder. Unrequested alarms caused by fixed or moving metal objects, buildings, surface water, tubes and wires can be minimised by a distance corresponding to interfering objects. The system can follow almost every shape and contour of the site.

With RFC, zones of up to 800 m length can be monitored. By using several evaluation units, these zones may be divided and administered in up to 50 different alarm zones. Thanks to the intelligent software the zones can be parameterised with an accuracy of 1 meter, independent of the sensor cable length. Cascading evaluation units allow arbitrarily long perimeter surveillance, depending on requirements. With RFC no changes of ground consistency are possible, unlike GPS. It has to be the same over the total length. Due to the fact that it is easy for RFC to integrate and thus complement with other systems, then an optimal and individual perimeter protection system is possible.

DPS - intelligent combination of GPS and RFC

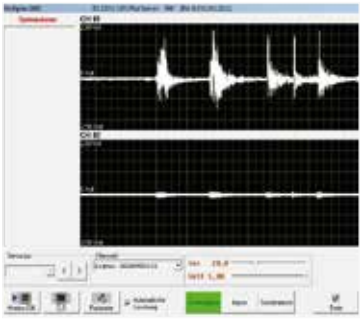
>> The DPS system combines the features of GPS and RFC. Due to the DPS concept (Digital System Processing) a huge number of signals can be evaluated in a very short time. The combination of two very reliable systems creates a system that provides the ultimate detection facility for special requirements and minimises the number of unrequested/ spurious alarms.



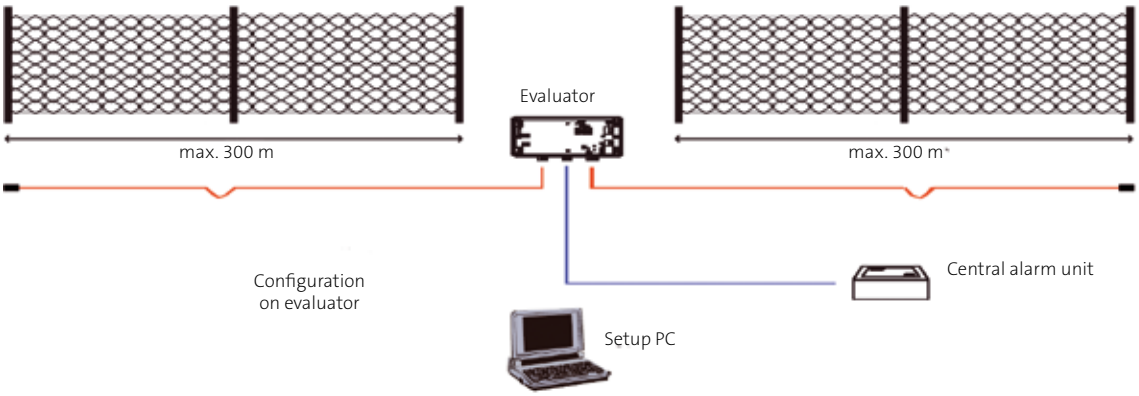
FENCE DETECTION

MicSec CPS Plus - microphone systems for fence detection

The passive detection systems MicSec CPS Plus reliably detects interference around the detected object and offers ideal protection. Therefore a sensitive wire is mounted on the detected perimeter, e.g. a fence system. Unauthorised entry undertaken by cutting, breaking through, climbing over, lifting or crawling under create vibrations, which are detected by the monitoring wire and then transformed into electric signals. These signals arrive at the evaluation unit where they are analysed. When the preset reference value is exceeded, an alarm is triggered.



MicSec can be mounted onto many types of fence fabrics, e.g. welded mesh or chainlink etc. Existing fences can easily be upgraded. MicSec CPS Plus can also be integrated in walls or ceilings, depending on the requirements. Prerequisite for a reliable detection is maximum contact between cable and monitored perimeter. A regular (annual) maintenance and tensioning of the pre-stressing wires of chainlink fences is recommended. Fouling by shrubs or trees should be avoided, as these can produce vibrations, which could lead to unrequested alarms. Monitoring of doors or gates is possible as well. These should be installed and then parameterised as separate zones due to their different oscillating behavior.



MicSec CPS Plus is available as a single-sensor with local relays as well as BUS-system with a central administration unit. The BUS-system can administer up to 64 single sensors and allows the detection of zones with a length up to 300 meters each. Detection is always conducted in real-time. The intrusion of a centralised system is feasible as well as the graphical representation of alarm zones, e.g. with the ability to distinguish between alarm in case of cutting or climbing over.

MICROPHONE CABLE SYSTEM MICSEC

MicSec CPS Plus at a glance

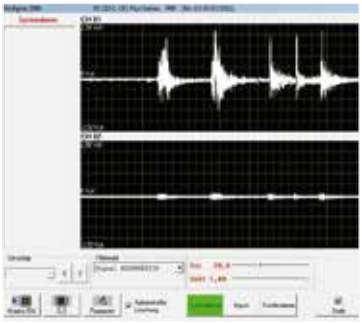
- Sensitive microphone cable system
- Optimal detection of structure-born sound
- Indoor or outdoor application
- Stand-alone oder central system structure
- Detection in real-time
- Up to 300 m cable can be monitored per zone
- Pre-alarm, alarm, fault and sabotage can be displayed per zone

>> The sensitive microphone cable provides reliable detection in real time - unobtrusively and without loss of space!

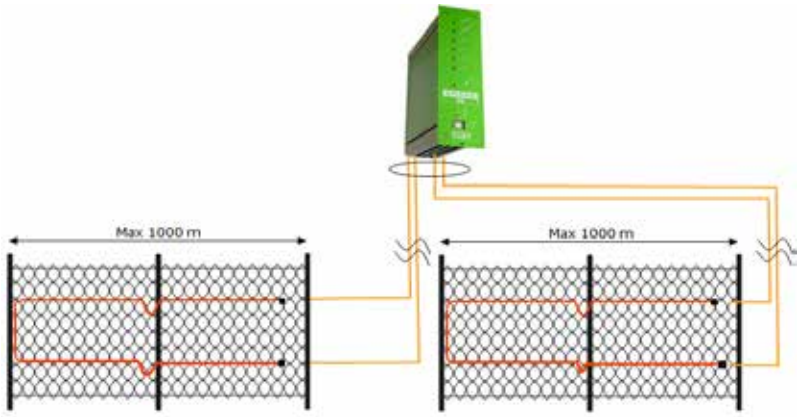
FENCE DETECTION

Detection based on fibre optic

Snake is a digital borne sound system based on fibre optic. The Opto-Phonic Technology detects climbing over, cutting through or pushing of fences. The sensor consists of a light transmitting fibre. Due to physical stress, signals are produced which are then evaluated by a Digital Signal Processor. The signal is compared with pre-saved reference signals that could have triggered unrequested or spurious alarms, e.g. caused by rain or hail.

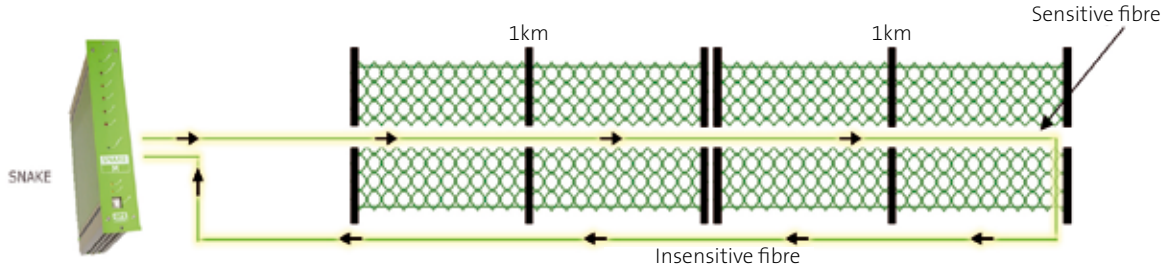


Typical applications include mesh fences or masonries. Chainlink fences are unsuitable for the use of fiber optic systems, since their oscillation behavior changes due to temperature variations that could lead to misinformation. To ensure short feed lines, the evaluation unit should be mounted at the sensor field as close as possible to prevent sabotage but as far away as necessary. Further it should be installed vibration-isolated from the sensor field. A big advantage of Snake is that it works without additional power supply. It is largely immune against electro-magnetic interference and also highly resistant to weathering.



Snake is available as a stand-alone or as a BUS-compatible multiplex version. The stand-alone units have been specially developed for projects that do not require a BUS-system for a variety of evaluation due to limited size. Only one BUS-cable can connect up to 64 evaluation units with the central BUS unit. The zone length is 1000 meters. With each evaluator a total length of approximately 4 km can be monitored. The rate of unrequested alarms can be significantly reduced by simulating possible attacks in parameterisation and subsequent deposit of signal patterns after completing the installation.

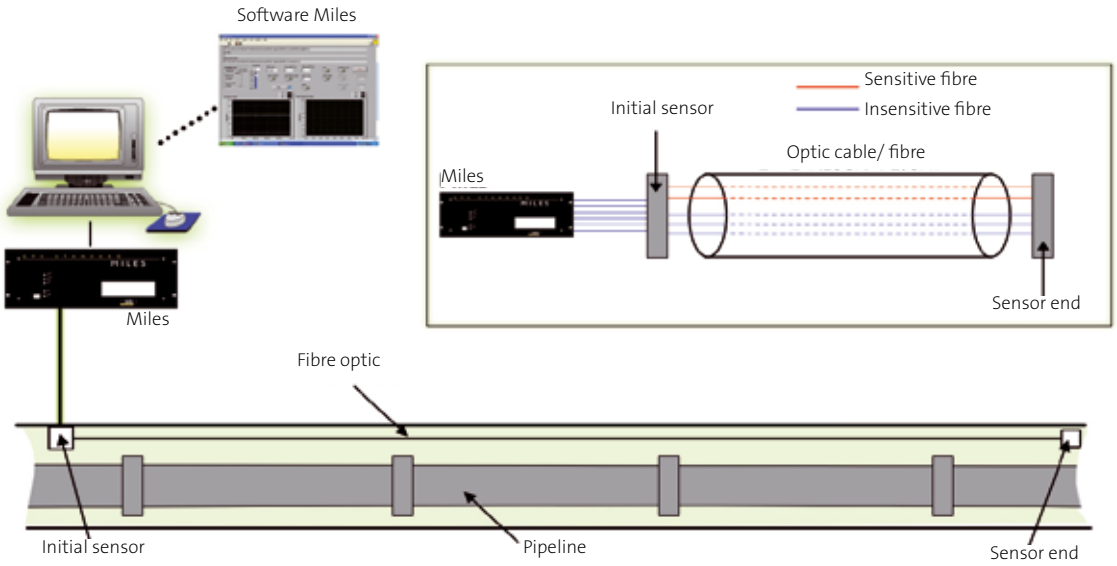
>> With RS485 interfaces, Snake reliably detects disorders, pre-alarm, alarm and fiber cuts for all monitored channels!



FENCE DETECTION

Miles - pipeline protection with fibre optics

The pipeline monitoring system Miles is based on fibre optics, as well as Snake. With Miles, very long pipelines e.g. for oil or gas can be secured reliable, as the system can be built modularly for several kilometers - the alarm can be pinpointed to 0.5% of the total track length!



The fibre optic cable is visible mounted above or directly onto the protected pipeline. Alternatively, it may also be incorporated into the soil. As usual for a fibre optic system, Miles doesn´t require any power supply within the monitored area. Moreover, it is immune to electromagnetic interference and atmospheric oscillations. Further more it is extremely resistant to environmental influences. After installation, the system is configured under real operating conditions. This reduces the rate of unrequested alarms to a minimum while ensuring maximum detection reliability.

Miles is particularly great for small zones, which are required for the integration in video-detection-systems. Here, the position of the alarm can be transmitted via data interface directly to the video system. The corresponding camera switches to the detection-zone. The position can be determined so precisely that even the cameras can pivot directly on the intruder. In smaller systems also relay outputs can be switched. Through individual adjustable fence-sizes, the highest level of security is always ensured.

Miles at a glance

- Digital born sound system
- Ideal for the protection of pipelines and cables
- Immune to electromagnetic interference
- Resistant to most environmental influences
- Modular system for montoring of large lengths
- Accuracy: 0.5% of total track length
- Low rate of spurious alarms (RUM)

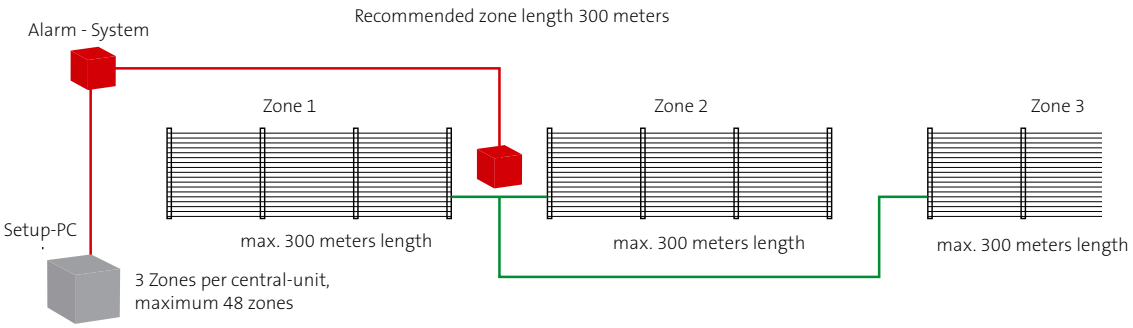
>> Optimise your existing security concepts and integrate Miles e.g. in modern video systems!

FENCE DETECTION

Protection for your assets and a deterrent to intruders

A detection with active energy-wire systems, such as PowerSec is based on deterrent but harmless energy pulses, which are released upon contact with the wires. For those looking to reduce risk PowerSec can be fitted to existing fences. Thanks to its restricted maximum energy of 5 joules there is no health risk for humans! Outwitting of the system is extremely difficult for the intruder: As soon as two wires touch each other ie. in case of short circuit or a broken wire, then the alarm starts.

PowerSec is an excellent addition to fences, walls or other detection systems. Basically, this system is mostly used as a climbing protection, but with reporting capabilities. Unintentional touching is prevented by installation behind the actual fence and beyond the arm´s reach. The wires are fixed horizontally at a spacing of about 100 mm by an additional bar on fence posts. Due to low voltage, there is no health risk for humans, but people with pacemakers or children should avoid contact wherever possible.



Like all detections systems this safety fence can be configured depending on zones and so it detects a zone of up to 300 m maximum in each case. A central processing unit detects up to three zones. In total a maximum of 48 zones can be monitored with PowerSec. The alarm is adjustable, dependending on the number of emitted energy pulses (1-10). The system is approved to the European standard IEC 1011.

PowerSec at a glance

- Wires with energy pulses
- Visually strong deterrent but not dangerous, due to risk-free power surges.
- Reliable protection against almost every type of attacks
- Tamper proof, alarm when cutting and when short circuit, caused by touch of two wires
- Approved to the European standard IEC 1011

>> Not only visually strong deterrent – PowerSec is the ideal addition to fences!

FENCE DETECTION

Medusa - highest insensitivity against environmental influences

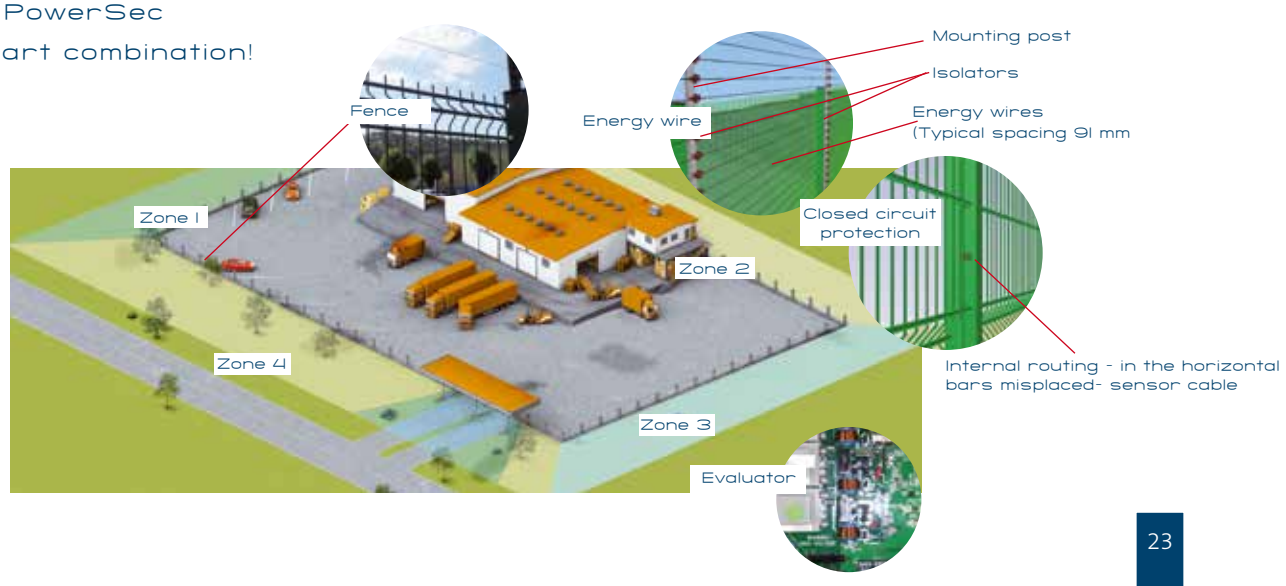
Closed circuit detection systems, such as Medusa manage to deter and detect intruders efficiently. In a closed-circuit monitoring, currents of a circuit are measured constantly. The corresponding system is located within a fence structure, so that unauthorised opening at a maximum size of ca. 40x30 cm leads to a disconnection of the conductive sensor wires and triggers an alarm.

Detection with Medusa is nearly invisible due to its hidden and therefore tamper proof sensor wire, which e.g. is installed directly in the tubes of welded mesh mats. Thus the system is virtually free of unrequested/ spurious alarms. Medusa can be integrated or mounted in almost all fence types and additionally secures gates and wall copings as well. Environmental stress has no effect on the detection reliability. Moreover, with Medusa over climbing can nondestructively be monitored by means of a kinking deflector. In general, typical types of attacks, such as climbing over, cutting or breaking as well as dismantling can be reliably detected.

With only three main components such as a fence, a sensor wire and an evaluator, Medusa offers an extremely discreet and reliable detection. Due to its features, Medusa is particularly suitable for securing businesses but also sophisticated private objects; because it remains consistently armed 24h/day - regardless of operating and with virtually no false alarms! The combination of the nearly invisible low-voltage system Medusa and the high-voltage system PowerSec as visually impressive climb-over protection (see illustration on page 23) provides protection and deterrence at the same time. So an outwitting of the detection system is virtually impossible.

CLOSED CIRCUIT SYSTEM MEDUSA

Medusa + PowerSec
- a smart combination!



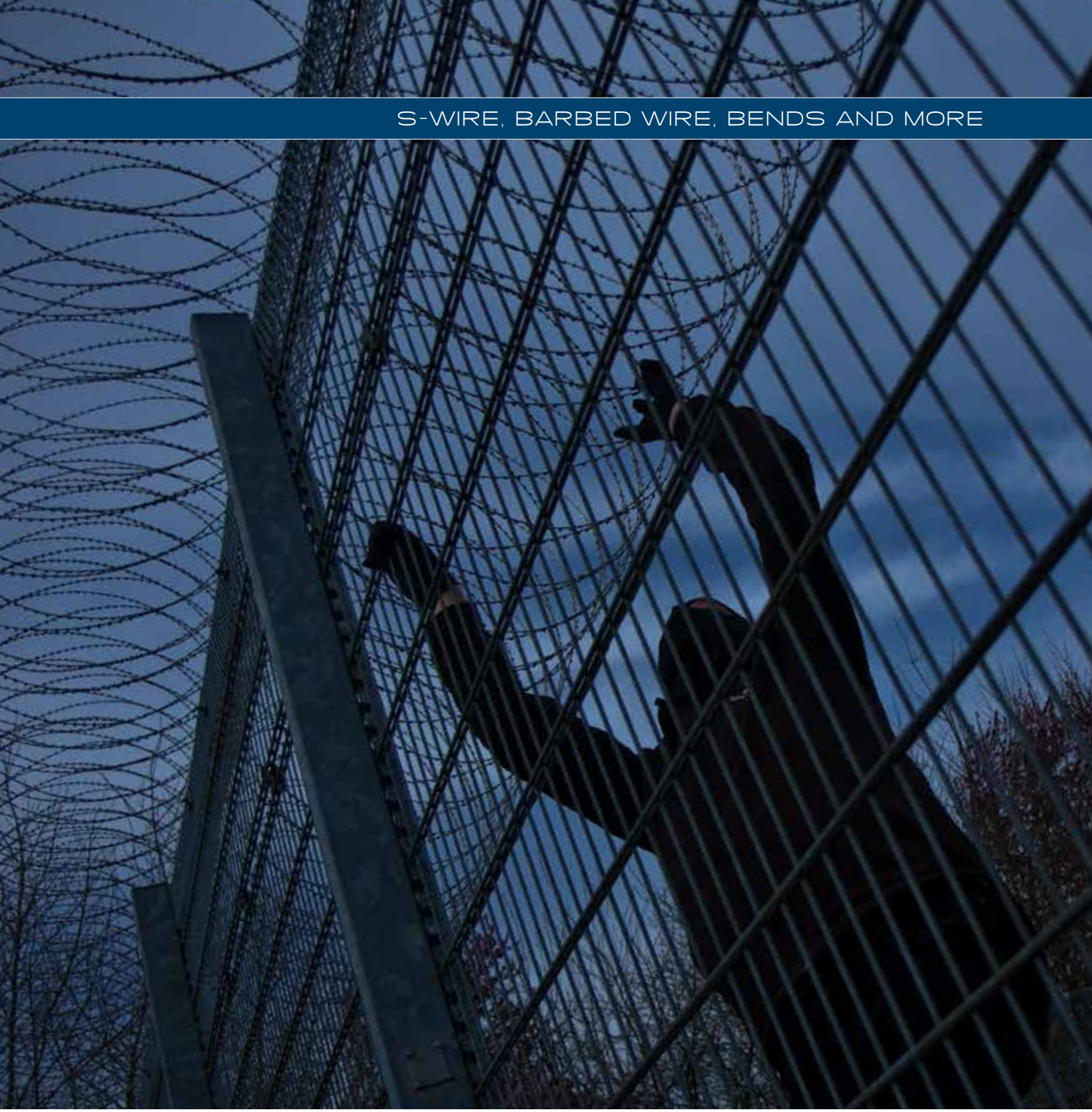
MECHANICAL PROTECTION

Anti-climbing devices and more...

Mechanical systems protect object boundaries and property furnishings. These include fences or expanded metal fences, anti-climbing devices with S-wire, barbed wire, bends and more. Combined with technically advanced electric detection systems and access control products, mechanical systems form integrated, sprawling security concepts: From fences, gates and turnstiles to detection systems, video surveillance and lighting to alarm management systems!

The expanded metal fence is ideally suited for areas with high security requirements such as prisons. Particularly solid and with its imposing height of up to five meters, it ensures reliable protection against cutting and climbing over. By integrating into the subsoil crawling under is prevented. Ideal for an upgrade of existing fences are barbed wire or the razor-like S-wire. Solutions against over climbing of wall copings complete the offer.

All systems are characterised by their variable mounting options and individual construction possibilities. Further customised versions or extensions are possible, such as over climbing protection for gates etc. that fit the fence. Reliable perimeter protection with PPG products - certainly more security!



Mechanical systems at a glance

- S-wire
- Barbed wire
- Bends
- Expanded metal
- Special security fence for prisons
- Over climbing protection for wall copings
- Fence-matching solutions for gates and turnstiles

Perimeter Protection Group

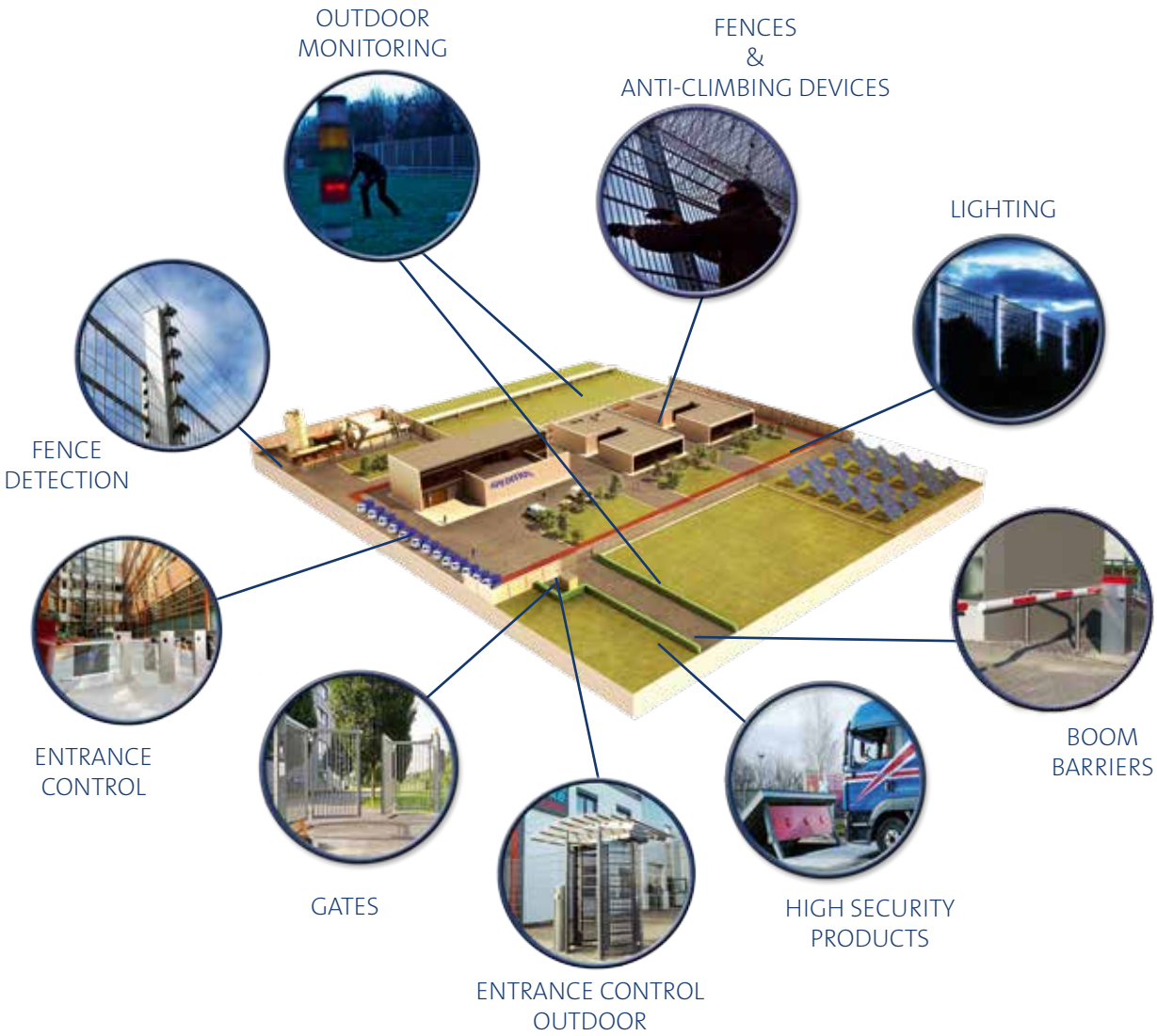
As a manufacturer of products and systems for perimeter security we offer our customers solutions for a variety of areas. With over 60 years of experience, companies in seven countries and worldwide distributors it is our aim to offer everything from one source - from individual products through to complete security concepts. And we meet the highest demands - this is our promise to our customers!

Certifications as a sign of high qualitiy

We choose to undergo both internal audits and external inspections carried out by multiple independent experts. As a result, we can prove the constant quality of our products and the efficiency of our processes. Therefore our company is of course DIN EN ISO 9001 certified, in order to ensure own, constant quality control and other services through a modern quality management system. Furthermore all electrically operated gates meet the latest European safety standards including EN 13241-1 and are also type tested by German TUV. Our outdoor monitoring systems are certified by the BHE (German association of manufacturers and installers of security systems). elkosta High Security products are crash-tested and certified according to American Standard ASTM F2656/DOS, British Standard PAS 68, and/or International Standard IWA 14-1!

The PPG training centre SECURITY WORLD

The approximately 550 m² training center is located near PPG´s factory in Salzkotten. Here we offer our national and international customers, partners, distributors and employees the opportunity to be trained hands on with installed and operational product. In separate training rooms we provide theoretical knowledge under modern conditions. Customer events such as in-house exhibitions, seminars and product trainings will be held there at regular intervals.



Our service at a glance

- Guarantee through after sales service contracts
- Security for you and your area - everything from one source!
- Short lead-times
- Extensive after sales service
- Inspection and maintenance according to ASR 1.7
- Professional trainings and product launches
- Contact:
  Service-Hotline: Mo. - Fr. 7:00 a.m. - 16:45 p.m.: +49(0)52 58 / 500 758
  or 24 hours via e-mail: service@perimeterprotection.de

Perimeter Protection Group

- safe & secure!

PPG Distributor took home "Product of the Year Award" at Security 2013 in Sydney

"Winners were chosen on the basis of innovation, originality and the potential benefits the product provides to the overall security industry. Ezi Security's Ezi Elkosta M50 Bollard was selected for its unique design and practicality. With the world's first integrated hydraulic drive unit, this is sure to be a game-changing technology that ensures superior quality while minimizing cost and labor overhead traditionally associated with bollards".

Kylie Mc Rorie, Exhibition Manager, Security 2013 Exhibition, Sydney, Australia

PPG provides comprehensive security for RWE

„While searching for suitable gate systems for our new pump workshop, the concept of the Perimeter Protection Group was convincing. The PPG gate systems facilitate the flexible adaptation to respective applications. That really met our planning!"

Andre Pochert, Project Manager RWE Power

Growing security systems...

"For us it is important that the security system grows with us when expansions occur within the company. For this reason, we decided on products that can be combined with one another as modular systems. In the end, we opted for a combination of a fence system, self-supporting sliding gates, swing gates and boom barriers."

Jürgen Selbmann, specialised engineer at Vattenfall, overall security of the premises

Referenzes

- Burj Khalifa, Dubai
- U.N. City, Denmark
- Doha Airport, Quatar
- RWE Power AG, Germany
- Bank of Oman, Sultanate of Oman
- Indian Parliament, India

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