SP2 TAS & AAS2 Models

SureWave Technology Ltd

Tunnel Detection & Wide Area Perimeter Monitoring

Unique Technology

Detecting Tunnelling

SureWave Technology's Tunnelling Alert System (TAS2) provides law enforcement agencies and the military with a revolutionary new tool to combat this daily threat. TAS2 will detect intruders tunnelling up to a depth of 500 Meters underground, and across a surface distance of up to 500 Meters from the system's sensors.

The capability of TAS2 to detect tunnelling is predominantly unaffected by the surrounding noise of traffic, construction, aircraft etc. The system's highly sophisticated software provides real time monitoring of the tunnelling with precise three dimensional co-ordinates.

TAS2 is passive and, therefore, undetectable, transmitting the information to a command and control centre.

Wide Area Perimeter Security

SureWave Technology's Perimeter Intrusion Detection System (AAS2) uses unique wide area microseismic technology to provide a revolutionary system for the security industry.

Whether it is in the detection of persons or vehicles approaching a sensitive site, AAS2 provides a unique, real time solution which is the perfect tool to enhance surveillance and security.

Real time tracking of surface activity is provided either locally or to a remote commander control centre. Integration to intelligent camera systems is provided.

Since each security site or situation may have unique features, SureWave Technology offers a custom built solution to suit your exact requirements.

This technology is ready for deployment today.

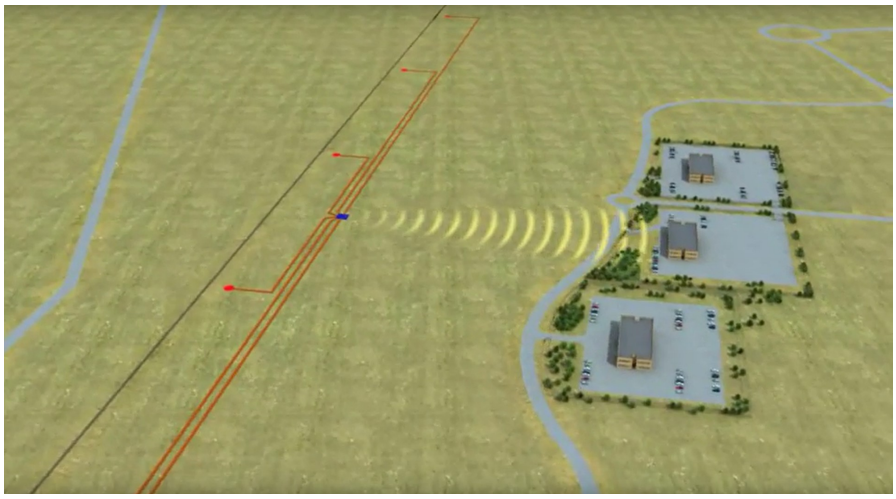
Contact us with your site specification for expert guidance and advice.

Tunnel Detection

An example deployment on a length of border is shown opposite. The sensors are deployed at intervals suitable for the terrain. This is typically 500 meters.

The sensors are wired back to a CPU system which wirelessly transmits to a remote command and control centre.

Permanent power would need to be provided to the CPU.



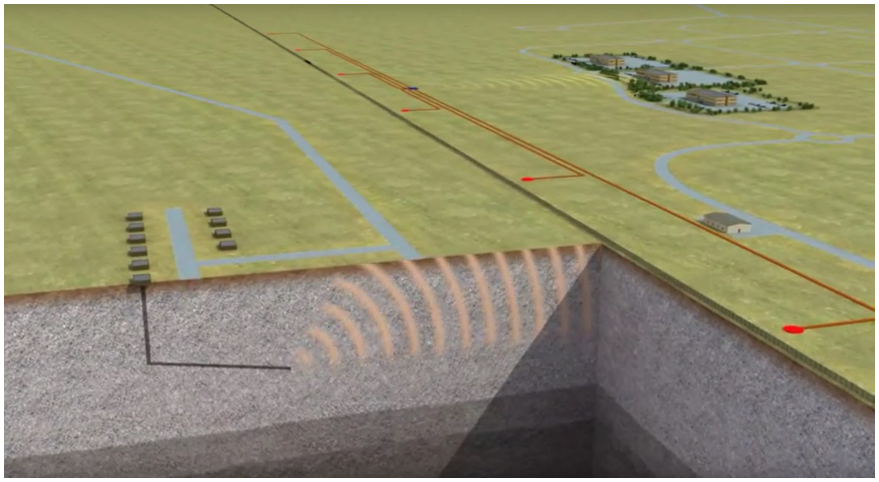
This technology is capable of rapid deployment within an hour. For permanent deployment, the addition of power and communications (wired or wireless) provide 24-hour monitoring and protection.

Any activity within the tunnel, including walking, crawling or the dragging of material, will be detected and reported in real time. The construction of tunnels can be monitored, enabling the interception to be arranged at a time and place chosen by the security services.

Location of the tunnel activity is normally within the width of the tunnel using the tri-axial sensors.

Each system can have two, three or four tri-axial sensors covering a linear length of up to 2, 3 or 4 KM respectively.

The system can be set up in the office before deployment by a simple text file setting the surface image to be displayed and the sensor positions or on site using the touch screen system.



Tunnel activity is monitored in real time and progress can be tracked on a 2D or 3D image.

This information is transmitted to the command control centre.

Multiple systems can be arranged to cover any length of

Wide Area Perimeter Security

Seismic systems for perimeter security have been around for several decades. All such systems suffer from varying degrees of false alerts due to weather or man-made activity nearby.

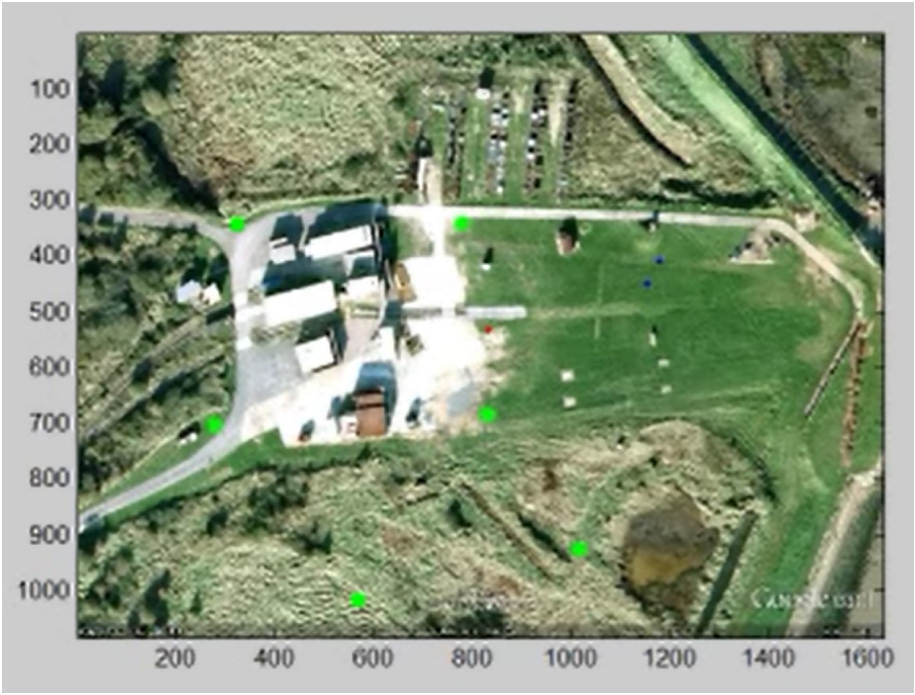
The SureWave solution is able to “see through” such noise to detect and locate footsteps over very large distances often up to 1KM from at least two sensors.

Vehicles can be detected over significant distances enabling advanced warning and interception before entering secure areas.

Sensors are buried just under the surface and cabled back to a central CPU system. The CPU provides sensor power via the cables making the system undetectable once deployed.

The single axis sensors are arranged around the asset to be protected or along the linear length of a border.

Two or more sensors detect an intruder or approaching vehicle and provide real-time tracking on the system screen or to a remote command control centre.



Once an intruder is detected, coordinates can be sent to a smart camera system for verification and simultaneously alerts sent to security personnel.

For this application, the recommended sensors are single axis. Systems are available with 6, 9 or 12 sensors covering areas of 6, 9 or 12 square KM.

Trialled by several governments and security sites, this system is ready for deployment now.

Our System

Portable CPU shown with one sensor

Features

- Portable– for rapid deployment, or permanent installation.
- Multi-channel seismic inputs (6, 9 or 12 channels)
- Extreme dynamic range over 130dB and over
- Stable embedded platform using Microsoft Windows™ operating system
- Built in 12 inch backlit TFT monitor with touch screen technology
- Powerful user interface software makes the systems effortless to use, rarely requiring user adjustment
- Multiple sensor heads cover a wide area up to 1KM per channel
- Easy configuration for email alerts and SMS texts (where available)
- Full remote monitoring via wired or Wi-Fi* network connection
- Tough and rugged design, IP67 (with lid closed)
- Designed and manufactured in the UK

*Requires a USB Wi-Fi adapter or Wi-Fi bridge when using on Wireless networks.

TAS2/6C	TAS2 base unit with 2 triaxial sensors
TAS2/9C	TAS2 base unit with 3 triaxial sensors
TAS2/12C	TAS2 base unit with 4 triaxial sensors

AAS2/6S	AAS2 base unit with 6 monitoring channels
AAS2/9S	AAS2 base unit with 9 monitoring channels
AAS2/12S	AAS2 base unit with 12 monitoring channels

AAS2 & TAS2 Technical Specifications

Portable systems are supplied with intelligent charger battery pack and battery pack interconnecting cable.
Fixed systems will require a permanent clean power supply of 12V DC @ 2.5A and 24V A 200mA.

Specifications (when used with TS1 family of sensors)

OS Platform	Microsoft™ Embedded Windows 7™
Display	12" diagonal, 16.8million colour TFT with touch screen
Power Ports	1x 12V charge input, 1x 24V battery pack input & 12V and 24V bench / solar power connector
Sensor Ports	Channel 1 thru 6, *Channel 7 thru 9, *Channel 10 thru 12
External Ports	2x USB 2.0 and 1x CAT5e Ethernet
Dynamic Range	Over 130dB
Power Supply	Internal 12V 7AH battery with 12V charging cable and external 24V battery pack with built in intelligent charger If powered externally 12V DC @ 2.5A and 24V DC @ 200mA
Dimensions	412 x 330 x 175mm
Weight	200lbs (90kg) Full system with six sensors, cables / reels, battery pack and accessories in a metal crate suitable for a SUV

*Channels 7 thru 9 only available on the models with 9 or 12 channels. Channels 9 thru 12 only available on models with 12 channels.

TS1/1 & TS1/3 Technical Specifications

Features

- Manual levelling with visual levelling guide
- Single-axis
- Multiple sensor heads cover a wide area up to 1 KM from each sensor (depending on activity to be detected and ground conditions)
- Tough, rugged IP67 design
- Designed and manufactured in the UK
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Available Models

TS1/1	Sensor Head with single sensor for vertical only axis monitoring used with AAS2
TS1/3	Sensor Head with 3 sensors mounted tri-axially used with TAS2

Specifications (when used with AAS2 Micro-Seismic Analytical Monitor)

Activity	Surface Distance
Footsteps	500M
Vehicles	1-10KM depending on ground conditions and background noise
Dimensions	130mm x 120mm diameter mounted on a 180mm base plate
Weight	10lbs (4.6kg)
Detection Radius	1KM
Environmental	-40 to 60 degrees C (note. Adequate ventilation/cooling must be given to the CPU system)

Standard Cables (depending on configuration) additional lengths on request

Cable Reel 3	Single Axis cables on a reel (10 pin male to male) standard supply of 2 x 75M, 2 x 150M, 2 x 300M

The SureWave Revolution

After more than ten years of research and development by its founder, SureWave Technology bring to the market a “game-changing” range of products, based on highly sophisticated techniques for measuring and monitoring microseismic activity above and below ground.

SureWave research has revolutionised the senility of existing microseismic monitoring methods to the extent hat pre-cursers to catastrophic events can now be detected many months in advance.

In short, SureWave Technology has broken the seismic “sound barrier” which is a momentous technological breakthrough in “seeing through” the background noise.

The SureWave Advantage

- Significantly improved sensitivity;
- Installation cost savings– expensive bore holes are not required as the system has the ability to monitor from surface mounted sensors;
- Detection range of up to 5KM in all directions;
- Capable of rapid deployment using a portable system for emergency applications;
- Sophisticated software system that provides visualisation of the event history, without the need for post processing.

About Us

SureWave Technology is a UK Based product development company with a sales and distribution network in Europe, America & the Asia Pacific Region. Sales and after sales services are provided by our distributor network.

SureWave also supplies a unique range of robust construction noise (Leq) and vibration monitoring systems that are available through our distributors.

SureWave Technology Ltd

The world’s leading microseismic technology company.

SP2 TAS & AAS2 Models

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