THRUVIS
TS4-C

THE WORLD'S MOST ADVANCED, PASSIVE, PEOPLE-SCREENING CAMERA

For real-time, stand-off detection of objects hidden about a person's body

The ThruVis TS4-C detects items of virtually any material – including metals, plastics, ceramics, liquids, gels and powders – and can be used as a stand-alone screening system or incorporated into a wider security architecture.

It deploys our unique and patented TeraHertz (THz)-imaging technology and is completely safe and non-invasive.

Passive and practical

Unlike many active scanning technologies, ThruVis employs a passive approach, measuring the natural TeraHertz energy emitted by all individuals and their surrounding environment.

The TS4-C features aligned CCTV and TeraHertz cameras, providing operators with a live, full height view of the person being screened.

It works best screening stationary individuals at a distance of around 3.5m, making it practical and convenient as a secondary security application.

During installation, the TS4-C is set at an angle of 25°. This angle enables full height screening of an individual to be optimally achieved.

The installation angle and the height of the unit ensures optimal detection, with the focus centered around the midriff of an individual.

The TS4-C is designed for indoor operations within an environmentally controlled facility. The unit is compact and portable, which makes it ideal for simple and rapid redeployment between locations as required.

Key features

• High quality Terahertz and visible-band imaging for easy-to-use, accurate detection of concealed objects
• Safe and non-invasive passive-screening technology with no capture or recording of intimate body details

Product codes

TV-TS4C  Compact, stand-off, concealed-object detection system
TV-TS4C-DLTP  Durable laptop for viewing

A range of installation brackets are also available – please contact us for details

Operational domains and installed base

ThruVis systems are deployed by organisations for border security and customs, law enforcement, public security and safety and loss prevention. The compact form factor, simple installation and ease of use of the TS4-C make it ideal for a range of secondary screening scenarios:

• Checkpoint screening for high-profile sites and VIPs
• Employee screening for loss prevention
• Screening at prisons

SAFER. STRONGER. MORE SECURE.
## TECHNICAL SPECIFICATIONS THRUVIS TS4-C

### Hardware
- **Physical size:** L660.4mm x W546mm x D213mm | **Weight:** 24kg
- **Operating temperature:** 5°C to 45°C
- **Relative humidity:** 95%, non condensing
- **Input voltage:** 90V AC - 264V AC, 47/63 Hz
- **Power consumption:** 90W
- **Environmental rating:** IP52 (NEMA rating of 5, 12 and 12K)
- **Imaging distance:** 3.5m
- **TeraHertz imaging display:** User selectable (black and white, colour options)

### Sensors and Imaging
- **Field of view:** W700mm x H1700mm at 3.5m
- **System sensors:** 0.25 THz passive sensing array colour CCTV camera (1280 x 720)
- **Frame rate:** 6 Hz (CCTV and THz data correctly aligned and overlaid)

### Integration Options
- An SDK is available to facilitate TS4-C integration with a broader security solution. Multiple TS4-C units can be viewed in ThruViewer; the default software platform supplied with the ThruVis TS4-C.

### Available Accessories
- Range of installation brackets
- Wheeled mobile trolley unit (with integrated battery)
- Durable laptop

### Approvals
- CE, EN55022, EN55024, ESTI EN 300 019-2-2

### Deploying TS4-C

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Floor mounted TS4-C
A complete screening capability is achieved by asking a person to turn 360° in front of the unit.

TS4-C is predominantly a fixed secondary screening solution. It can, however, be deployed in a lightweight wheeled trolley with the option of an integrated battery unit. Units can also be installed quickly with fixed or re-deployable mounting brackets.

ThruVis is the world's most advanced passive concealed object-detection technology. ThruVis delivers high detection rates for materials such as metals, plastics, ceramics, liquids and powders. It is suitable for use as a stand-alone system or it can be incorporated into wider security measures. ThruVis's passive-detection technology enables quick, safe and respectful screening by receiving the natural TeraHertz energy emitted by individuals and their surrounding environment.
ThruVis, our revolutionary people-screening camera, checks for concealed weapons, suicide bomb vests or hidden items of contraband without any significant disruption of passengers’ movements.

It was named Counter-Terrorism Innovation of the Year at the IFSEC Security & Fire Excellence awards.

ThruVis is the only technology of its kind capable of detecting objects of virtually any material, even under multiple layers of clothing. It will spot hidden explosives and liquids, and will detect a bomb vest or hidden weapon on anyone in front of the camera at a range of between three and eight metres.

ThruVis is portable, requires no infrastructure and can be set up in minutes.

Its TeraHertz cameras gather instant images with no harmful effects to the human body and avoid any invasion of privacy as no anatomical details of the person being screened are revealed.

ThruVis can be deployed covertly as a fixed or mobile unit so passengers are unaware they are being screened. Additional technology is available from Digital Barriers that enables the output to be streamed in real-time to staff with mobile devices and integrated into existing security management systems for command and control centres.

ThruVis’s potential to save lives by providing an early warning of a threat has led to an increase in its use around the world in the last year. It is now a major deterrent in the fight against crime and terrorism in 10 countries, including the United Kingdom and the United States, as well as the Middle East and Asia.
ThruVis features:

- Quick and easy set-up - operational in minutes
- Capability to screen people quickly, enabling high throughput
- Option to use multiple units to increase coverage and avoid slowing flow of people
- No physical contact, particularly valuable in culturally sensitive situations or where language barriers could cause delay
- Operator-assist system to highlight objects for a trained operator to determine if they're of concern
- The most advanced passive, mobile and non-invasive, stand-off technology in the world, capable of screening people for concealed weapons and explosives, detecting metallic and non-metallic items and liquids under clothing
- Virtual pat-down of people without delay or restriction of their movement
- Easily detects bomb vests and weapons at distances up to eight metres
- In tests on people standing static was found to be 100% reliable
- Terahertz (THz) screening with no harmful effects or revealing of anatomical details
- Mobility of units, providing unpredictability for adversaries to rehearse against
- Covert deployment options and remote monitoring as required

How does it work?

ThruVis interprets the varying levels of natural Terahertz energy emitted by people and objects to highlight items concealed about the body. Hidden objects are displayed in clear contrast, in real time and at stand-off distances. This allows safe and simple screening without slowing the flow of people. An operator-assist feature is also available to highlight objects of interest that may require further investigation.

Compact and truly mobile

Units are extremely compact and mobile and can be deployed as a temporary measure or used as an entirely mobile screening capability. Operators can view real-time imagery locally and remotely. Low-power units can be battery operated for rapid installation.

Reliable stand-off detection

ThruVis units can be ceiling or floor mounted for overt and covert operations and can be incorporated easily into existing security infrastructure. Our technology is a proven solution for the reliable detection of concealed threats. A standard camera provides visual confirmation of threats alongside recorded scans, giving operators the complete picture.

Every person and object emits natural Terahertz energy

Terahertz energy from concealed object is different from a body’s. This difference is detected by ThruVis
When it comes to smuggling a bomb on board a plane, two main groups of people can do it - passengers or staff - including ground workers and air crews.

At the biggest airports in Europe, where up to 100,000 staff are employed, around 86,000 of the baggage handlers, airline boarding staff, duty free shop employees, maintenance workers, restaurant staff, firefighters, rescue workers and air traffic controllers have access to restricted areas.

How, though, can airport authorities bring in more detailed checks without hindering internal staff from doing their job or adding to lengthening passenger queues?

ThruVis, Digital Barriers’ passive people-screening camera, provides a potentially life-saving extra layer of security - and crucially won’t lead to delays in areas of high footfall.

Units can be deployed covertly at airport entrances, so anyone carrying hidden firearms can be spotted before they reach baggage queues and security chokepoints.

Our world-leading technology checks for concealed weapons, suicide bomb vests or items of contraband without any significant disruption of staff or passengers’ movements.

ThruVis is the only technology of its kind capable of detecting objects of virtually any material, even under multiple layers of clothing. It will spot hidden explosives and liquids, and will detect a bomb vest or hidden weapon on anyone in front of the camera at a range of between three and eight metres.

Units are portable, require no infrastructure and can be set up in minutes.

TeraHertz cameras gather instant images with no harmful effects to the human body and avoid any invasion of privacy as no anatomical details of the person being screened are revealed.

ThruVis can be deployed covertly as a fixed or mobile unit to screen internal staff and passengers in areas they would not suspect - so they remain unaware a camera is screening them.

Additional technology is available from Digital Barriers that enables the output to be streamed in real time to staff with mobile devices and integrated into existing security management systems for command and control centres.
The heightened threat of terrorist attacks on airports and planes demands new ways to protect passengers. However, the nature of air travel involves the mass movement of large numbers of people so any extra layer of security needs to be able to screen people without hold-ups.

There are practical and cultural constraints to be considered too, making monitoring an extremely sensitive area.

With ThruVis, though, security personnel can perform a virtual pat-down on staff and passengers, using safe and respectful Terahertz-imaging technology.

There is no physical contact, particularly valuable in culturally sensitive situations.

ThruVis’s potential to save lives by providing an early warning of a threat has led to an increase in its use around the world in the last year.

Proven as the world’s most advanced passive, mobile, non-invasive and stand-off people-screening camera, it is now a major deterrent in the fight against crime and terrorism in 10 countries, including the United Kingdom, the United States and Japan as well as sensitive locations across the Middle East and Asia.

**ThruVis Public Safety features:**

- Quick and easy set-up - operational in minutes
- Capability to screen people quickly, enabling high throughput
- Option to use multiple units to increase coverage and avoid slowing the flow of people
- No physical contact, particularly valuable in culturally sensitive situations or where language barriers could cause delay
- Operator-assist system to highlight objects for a trained operator to determine if they’re of concern
- The most advanced passive, mobile and non-invasive, stand-off technology in the world, capable of screening people for concealed weapons and explosives, detecting metallic and non-metallic items and liquids under clothing
- Virtual pat-down of people without delay or restriction of their movement
- Easily detects bomb vests and weapons at distances up to eight metres
- In tests on people standing static was found to be 100% reliable
- Terahertz (THz) screening with no harmful effects or revealing of anatomical details
- Mobility of units, providing unpredictability for adversaries to rehearse against
- Covert deployment options and remote monitoring as required

**How does it work?**

ThruVis interprets the varying levels of natural Terahertz energy emitted by people and objects to highlight items concealed about the body. Hidden objects are displayed in clear contrast, in real-time and at stand-off distances.

This allows safe and simple screening without slowing the flow of people.

An operator-assist feature is also available to draw attention to potential objects of interest on a subject.

**Compact and truly mobile**

Developed from space-age technology, ThruVis is able to deliver outstanding detection performance.

Units are extremely compact and mobile and can be deployed as a temporary measure or used as an entirely mobile screening capability. Operators can view real-time imagery locally and remotely.

**Low-power units can be battery operated for rapid installation**

Reliable stand-off detection ThruVis units can be ceiling or floor mounted for overt and covert operations and can be incorporated easily into existing security infrastructure.

Our technology is a proven solution for the reliable detection of concealed threats.

A standard camera provides visual confirmation of threats alongside recorded scans, giving operators the complete picture.
Increasing the security to screen people for threats in shopping centres has traditionally meant using ‘stop-and-search’ tactics or airport-style security. This can be inappropriate within the retail environment and inconvenient for members of the public as it may delay their movement, infringe their privacy and be difficult and costly to deploy.

Screening on a different wavelength

ThruVis from Digital Barriers provides an effective and cost-efficient, people-screening solution that can be deployed rapidly in keeping with the retail environment whilst allowing people to move freely through entrance ways without delay.

ThruVis provides a virtual ‘pat down’ of people as they pass through entrances to shopping malls; this helps security staff identify concealed weapons, suicide vests or other person-borne threats.

Unlike traditional airport security gates, ThruVis can be deployed covertly, discreetly or overtly to screen people to 8m distance without them having to stop. People can pass by the ThruVis camera without realising they are being screened so it is ideally suited for use in areas of high footfall, such as shopping malls and similar public places.

Digital Barriers’ facial recognition analytics can also be deployed with ThruVis to extract and record the faces of people concealing possible weapons and other threats in their clothing; and the pictures of the suspect individuals can be automatically sent to security staff or to automated recognition systems to compare against watchlists, helping to support a coordinated and measured response.

Public places such as shopping malls face a growing terrorist threat. Security teams face the challenge of detecting and deterring concealed hidden weapons and suicide bomb vests without impacting the movement of legitimate people in the retail environment.
How does it work?

ThruVis is powered by Terahertz technology, a passive Terahertz camera which is as harmless as a normal video camera and completely non-invasive. It does not reveal anatomical details so there are no safety or privacy issues. It detects any anomalous object concealed in or under clothing, such as metal, ceramic or plastic weapons, explosives and liquids. ThruVis has been independently tested for the detection of explosives and weapons.

ThruVis requires no existing infrastructure. It can run on batteries if required. The unit sends real-time images to remote security monitoring centres within the shopping mall or security personnel directly so staff do not need to be near the ThruVis camera when screening.

There are also options for mobile use, where it can be housed within a rugged enclosure on lockable wheels so that it can be deployed in times of increased threat to a shopping mall or located in different areas, making it impossible for adversaries to rehearse against.

Why use ThruVis in shopping malls?

Developed from space technology, ThruVis is the only viable technology in the world that can detect concealed threats on people 100% of the time, without having to use active ‘body scanning’ technology that may be harmful or slows the flow of people within shopping malls.

It is very cost effective and quick to deploy, without impacting the retail shopping experience. Customers in most cases are not aware of the presence of ThruVis cameras.

ThruVis is a proven and tested capability, deployed in multiple countries around the world for the detection of threats to life, including securing public spaces, high-profile buildings, high-profile events such as political leadership summits, secure government facilities, military force protection and airport checkpoints.

How easy is it to deploy within a retail environment?

ThruVis is easy and fast to deploy in a shopping mall. The actual unit is no bigger than a tower PC, and it can be enclosed into retail surroundings easily, such as into discreet single or double bollards, advertising units, planters, or similar objects, depending on requirements.

ThruVis requires no existing infrastructure. It can run on batteries if required. The unit sends real-time images to remote security monitoring centres within the shopping mall or security personnel directly so staff do not need to be near the ThruVis camera when screening.

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Key Benefits

- Only technology of its kind anywhere in the world that can reliably detect weapons and suicide vests concealed under clothing.
- A virtual ‘pat down’. People are screened in real time for concealed threats without physical contact.
- Operates at between 3 and 8 metres from the person being screened.
- High throughput. Screens people quickly, without delays, and multiple units can be used in tandem to increase throughput and coverage.
- Operator-assist function to highlight objects, then a trained operator determines if they’re of concern.
- Totally passive, safe. Nothing is emitted by the equipment.
- Completely non-invasive. It does not reveal anatomical detail.
- Fixed and mobile units – can be moved to suitable locations as required.
- No major changes to existing infrastructure and security protocols.
- Facial recognition and cloud-based video analytics can also be deployed in addition to ThruVis, providing enhanced security features such as the detection and recording of faces passed onto security personnel or automated intrusion detection.
- Live streaming of output and video direct to security monitoring centres or the mobile devices of security personnel.
- Proven and tested capability – has been deployed in multiple countries around the world for the detection of threats to life.
Public places such as concert venues, cinemas, shopping malls and sports stadia face a growing threat from terrorist activities, lone shooters and violent crime.

ThruVis Public Safety, Digital Barriers’ revolutionary people-screening camera, checks for concealed weapons and suicide bomb vests without disrupting people’s movement.

**Effective and cost efficient mass people screening**

Increasing the security to screen people for threats in public places has traditionally meant using stop-and-search tactics or expensive, airport-style choke-point security measures. This can be inappropriate and off-putting within open spaces and inconvenient for members of the public as it may delay their movement, infringe their privacy and enjoyment, as well as being difficult and costly to deploy.

ThruVis from Digital Barriers provides an effective and cost efficient people-screening solution that can be deployed rapidly, in keeping with the public space environment, whilst allowing people to move freely through entrance ways without delay or awareness that they are being screened.

Our unique technology, which was named Counter Terrorism Innovation of the Year at the IFSEC Security & Fire Excellence awards, is designed for indoor operations.

It provides a virtual pat-down of people as they pass through entrances to public areas, helping security staff identify concealed weapons, suicide vests or other person-borne threats that may put the public at risk.

SAFE, FAST AND UNOBTRUSIVE PEOPLE SCREENING.

[Digital Barriers logo]

VISUALLY INTELLIGENT SOLUTIONS for public spaces and events www.digitalbarriers.com

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**SAFE, STRONGER, MORE SECURE.**
Unlike traditional airport security gates, ThruVis can be deployed covertly, discreetly or overtly as a fixed or mobile unit to screen people without them having to stop.

People can pass by without realising they are being screened so ThruVis is ideally suited for use in areas of high footfall, such as shopping malls and similar public places.

It is the only technology of its kind capable of detecting objects of virtually any material, even under multiple layers of clothing.

ThruVis will spot hidden explosives and liquids, and in independent tests was 100-per-cent successful in identifying anyone wearing a bomb vest or carrying a hidden weapon at a range of up to 8 metres.

It is portable, requires no infrastructure and can be set up in minutes.

TeraHertz cameras gather instant images with no harmful effects to the human body and avoid any invasion of privacy because no anatomical details of the person being screened are revealed.

ThruVis saves lives by providing an early warning of a threat and this has led to an increase in its use around the world in the last year.

It is now a major deterrent in the fight against crime and terrorism around the world, and is deployed in the United Kingdom, the United States, Japan, Hong Kong and sensitive locations across the Middle East and Asia.

ThruVis features:

- Quick and easy set-up - operational in minutes with no need for any infrastructure
- Capability to screen people quickly, enabling high throughput
- Option to use multiple units to increase coverage and avoid slowing the flow of people
- No physical contact, particularly valuable in culturally sensitive situations or where language barriers could cause delay
- Operator-assist function to highlight objects for a trained operator to determine matters of concern
- The most advanced passive, mobile and non-invasive, stand-off technology in the world, capable of screening people for concealed weapons and explosives, detecting metallic and non-metallic items and liquids under clothing
- Virtual pat-down of people without delay or restriction of their movement, and in tests found to be 100% reliable
- Terahertz (THz) screening with no harmful effects or revealing of anatomical details
- Easily identifies bomb vests and weapons at distances up to 8 metres
- Mobility of units, providing unpredictability for adversaries to rehearse against
- Covert deployment options and remote monitoring available as required
- ThruVis technology can see through some materials, making discreet screening an option

Every person and object emits natural Terahertz energy

Terahertz energy from concealed object is different from a body's. This difference is detected by ThruVis
Protecting sports stadia and other busy public spaces from terrorist threats is one of society’s greatest security challenges.

Given the high volume of people to be checked and the time and cost this involves, innovative modern technology is seen as key to improving security when crowds are on the move.

ThruVis, Digital Barriers’ award-winning body-screening camera, enables the detection of flares, concealed firearms and suicide bomb vests at security checkpoints - without significantly disrupting supporters’ movement.

Our unique technology, which was named Counter Terrorism Innovation of the Year at the IFSEC Security & Fire Excellence awards, is designed for indoor operations.

It provides a virtual pat-down of people as they pass through entrance ways. ThruVis sensors can be deployed to screen an individual’s front and back simultaneously, helping security staff pinpoint a large weapon, alcohol, bottles or any other hidden flare or firework that may represent a threat to public safety.

So there is no need to slow down the flow of people as they walk through a checkpoint by insisting they remove jackets.

ThruVis detects items and liquids of virtually any material within a range of three to eight metres - even under multiple layers of clothing.

It is the most advanced passive, mobile, non-invasive, stand-off screening technology in the world and is now a major deterrent in the fight against crime and terrorism in countries like the United Kingdom, the United States, Japan, Hong Kong and sensitive locations across the Middle East and Asia.
ThruVis units are compact, portable, can be set up in minutes and are easy to relocate and store away when not in use.

They can be integrated with existing checkpoint measures to provide a potentially life-saving extra layer of security or deployed on their own covertly, allowing people to move freely without awareness they are being screened.

Minimal training is required to operate a ThruVis unit and the latest version comes with an Operator-Assist feature that highlights large concealed objects.

The person directed into the field of vision needs to be stationary for no more than three seconds for the ATD to be very reliable at indicating objects of concern.

ThruVis's Terahertz cameras gather instant images with no harmful effects to the human body and avoid any invasion of privacy as no anatomical details of the person being screened are revealed.

Additional technology is available from Digital Barriers that allows staff to view images remotely in real time on a laptop, mobile device or in a control room.

With our cutting-edge face-recognition technology, these images can also be analysed against a hooligan watch-list to detect anyone who is the subject of a Football Banning Order.

**Key benefits of ThruVis**
- Fast, safe and respectful screening
- Reliable and easy to use
- Detects a wide range of threats
- Minimal training required
- Compact size - suitable for mobile operations
- Easy set-up and quick start-up

A ThruVis walk-through body-screening solution can be integrated with existing security checkpoints

ThruVis technology can see through some materials - making discreet screening an option

How walk-through screening could potentially be implemented discreetly
Real-time, passive, people screening for prisons

Prisons face a huge challenge to prevent drugs and weapons being smuggled in to inmates from the outside.

ThruVis offers a safe, fast and accurate screening solution - and detects contraband other security measures miss.

Detects objects of virtually any material under layers of clothing

Stemming the influx of drugs, alcohol, phones and weapons into a prison is a daunting task.

Resourceful smugglers recognise the limitations of people-screening measures and exploit them.

Also, conventional systems are often large and limited to detecting certain materials. ThruVis is a revolutionary approach to people screening.

It is 100% safe and non-invasive and operates in real time, enabling immediate intervention.

Items measuring as small as 5x5cm are detected from four metres away.

By deploying units covertly, the Prison Service can also bring in more detailed checks without hindering guards from doing their job.

Inmates, visitors and staff remain unaware they are being screened.

Operational benefits of ThruVis:

- Quick, safe and respectful screening of individuals for the detection of concealed contraband
- Compact and easy to use as a mobile, screening solution - operational in minutes
- Detection of concealed weapons and other items, including organic materials such as drugs and phones
- Seizure of contraband and illicit goods, stem the flow of smuggling and deterrence effect of interventions
- Simple to deploy and operate, with operator-assist function to support identifying objects
ThruVis is the world’s most advanced technology for passive screening and concealed-object detection. It delivers high detection rates for metals, plastics, ceramics, liquids and powders and ensures quick, safe and respectful screening for the Prison Service.

EXTRA SENSORY PERCEPTION.

ThruVis interprets the varying levels of natural Terahertz energy emitted by people and objects to highlight any items concealed about the body. Hidden objects are displayed in clear contrast, in real time and at stand-off distances. This allows high throughput screening for Prison Service operations. An operator-assist function draws attention to potential objects of interest on a subject.

COMPACT AND TRULY MOBILE.

ThruVis units are compact, lightweight and low power allowing them to be deployed in minutes, as a temporary measure or used as an entirely mobile, screening capability. Units can be integrated within an existing security system to include remote viewing over IP networks or operated as a stand-alone capability.

ThruVis units can either be ceiling or floor mounted for both overt and covert operations, without additional infrastructure.

RELIABLE STAND-OFF DETECTION.

Agencies adopting ThruVis benefit from the ability to perform efficient and respectful ‘virtual pat downs’. The intuitive user interface allows prison staff to retain operational focus during operation. The ThruVis TS4-C unit works best screening stationary individuals at a distance of around 3.5m.

It features aligned CCTV and Terahertz cameras, providing operators with a live, full height view of the person being screened.