SECURITY X-RAY SCREENING SYSTEMS

LINEV SYSTEMS

PEOPLE
SCREENING

PARCEL, BAGGAGE
AND SMALL CARGO
INSPECTION

CARGO
AND VEHICLE
INSPECTION

Combining innovative threat detection technologies with flexible system designs, LINEV Group security inspection systems provide exceptional automated processing, threat recognition and throughput rates.

PEOPLE SCREENING

Every day millions of people all over the world pass through security checkpoints, hoping to do so as quickly and conveniently as possible. To provide them maximum security alongside with the required comfort, LINEV Group invented innovative all-encompassing transmission X-ray technology and implemented it into the most contemporary people screening systems on the market.

They allow the detection of all types of dangerous threats, including drugs, weapons, and explosives concealed on the human body, inside it or even hidden in the prosthetic devices much more effective and efficient in comparison with the ordinary metal detectors of competitive systems. The best detection level is the main advantage recognised by every LINEV Group customer.

PARCEL, BAGGAGE & SMALL CARGO INSPECTION

Modern threats in hold baggage, parcels and small cargo pushed LINEV Group to develop systems that are specifically designed to meet the main inspection requirements of customs, logistic centres, postal services or every facility critical to security like schools or embassies. Baggage inspection series possess such technologies as Dual-Energy, allowing dangerous objects to be detected by atomic number, Dual View, providing the best detection abilities and AI automatic threat detection software, allowing operators to maximise their effectiveness and lower company maintenance costs.

CARGO AND VEHICLE INSPECTION

Threat levels in today's modern world from smugglers, criminals and even terrorists, create ever evolving challenges when it comes to security screening without hindrance to the flow of the process. LINEV Group portal systems are able to detect various types of hidden threats and prove to be an optimal solution for the inspection of trucks, passenger vehicles and cargo. DTP series is the perfect fit for all types of high security locations like border crossings, government buildings, embassies or military facilities. Excellent detection ability and image quality position LINEV Group as one of the leaders on the market.

SECURITY X-RAY SCREENING SYSTEMS

PEOPLE SCREENING

JAILS AND PRISONS	MILITARY FACILITIES	MINES
SECURITY CHECKPOINTS	CRITICAL INFRASTRUCTURE	VIP RESIDENCES
BORDER CROSSINGS	AIRPORTS	PUBLIC EVENTS AND VENUES

Industry's fastest image acquisition time of 3 seconds

CLEARPASS
Revolutionary high throughput body scanner

• Class leading Image quality
• **A-EYE & DruGuard detection software**
• Minimum safe operating area
• Wheelchair friendly and ADA compliant

Industry's fastest image acquisition time of 3 seconds

CLEARPASS C.I.
Partial body scanner

CLEARPASS C.I. is the world's most advanced, mobile, single module body scanner, specially designed for the detection of contraband "on" or "in" the human body, by allowing selective area focused screening, which reduces screening and overexposure to other parts of the body.

Considering that walk-through metal detectors cannot cope with all the latest security threats, the innovative personal security systems invented by LINEV Group are the best and the most effective solution for safety protection. Today when terrorists use more and more sophisticated techniques and means, such as non-metallic weapons, plastic and liquid explosives, and when drug dealers use human bodies as containers for drug transportation, the security systems must be enhanced by the latest technologies and solutions.

- Innovative imaging technology for personal inspection using an extremely low dose of X-ray transmission (comparable to 2 minutes flight in an airplane).

- Identification of a wide range of dangerous items that can be hidden in body cavities or concealed under clothing.

- High speed scanning improving and simplifying the checkpoint inspection process with no harmful effect on health.

FULL BODY SECURITY SCREENING SYSTEMS

Easily relocated

CLEARPASS COMPACT
Small footprint body scanner

The perfect fit for smaller rooms, this solution fit for smaller rooms this solution has all benefits from the original system including image quality and AI software.

NEW ERA-NEW DESIGN

SENTINUS
Instant X-ray checkpoint solution

Automated image view assistance
Remote system health monitoring
Automated operation control

CONPASS SMART DV
Dual View body scanner

• Best image quality on the market
• Easy relocatable modular design
• Single or Dual View solutions for the best threat detection
• All unique software features inside

MADE IN BRITAIN

CONPASS SMART TR
Focused View body scanner

Advanced security solution with enhanced detection capabilities for fast, safe and precise screening for items on or in the body within the **central area** - the most important screening zone for swallowed threats.

AUTOMATED NARCOTICS DETECTION SOFTWARE
DRUGUARD

DRUGUARD analyses the body scanner X-ray images and highlights suspected objects in the central area which is mostly commonly used to conceal drugs by a trafficker or "drug mule". This enhances the detection capability for the operator and increases the throughput of the screening process. Currently deployed at airports and border crossings, it has already proven to be a valuable tool to assist customs and law enforcement personnel in drug interdiction efforts.

FEATURES:

• Effective detection of concealed narcotics
• Reduced image analysis time
• Remote retrofit upgrade
• Storage of all images with highlighted zones
• Low false alarm rate
• Track and boost operator effectiveness

US PATENTS: US 7,397,892 B2

US 9,392,983 B2

DETECTION ABILITIES BY HIGHLIGHTING THREATS WITH COLOUR CODED BOXES
A-EYE ®

The unique AI algorithms developed by LINEV Group provide automatic detection and indication of the prohibited items and threats on or inside the human body and enhance the operator's detection abilities by highlighting threats with colour coded boxes.
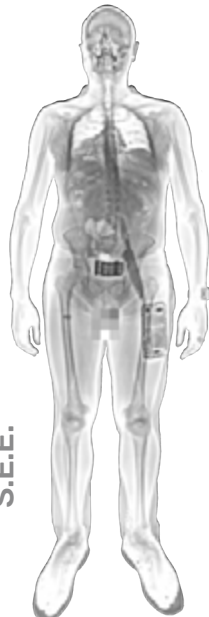
S.E.E.

Standard view

S.E.E.

SUPER EDGE ENHANCEMENT

This cutting-edge image enhancement tool uses sophisticated algorithms to provide optimized clarity and contrast of threats and contraband on or within the human body. S.E.E. processes each image to provide the operator with a highly effective super resolution image which is tailored according to individual scanned.
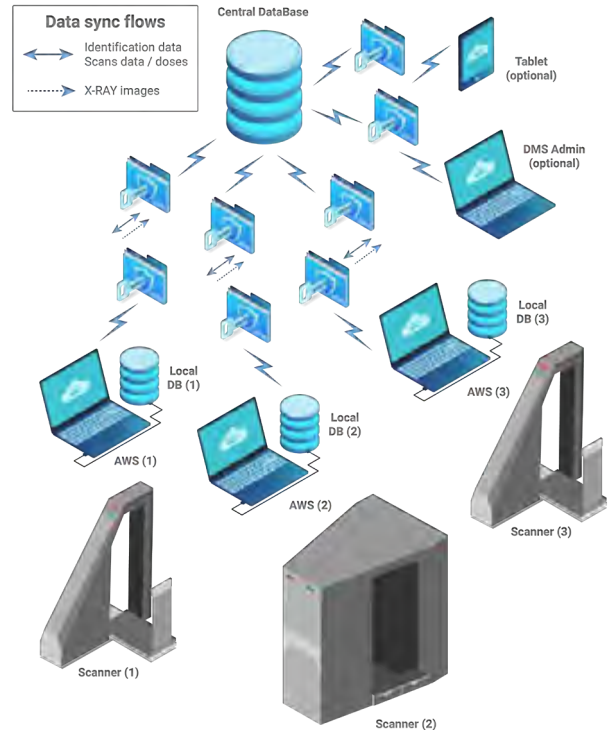
INTEGRATION
Unique software

The software provides full and effective integration of the inspection systems into any security infrastructure with the possibility to connect to any of the common option enhancements including document scanners, CCTV, fingerprint scanners, barcode readers, etc.

DMS

Data sync flows
Identification data Scans data / doses
X-RAY images

Central DataBase

Tablet (optional)

DMS Admin (optional)

Local DB (3)

AWS (3)

Local DB (1)

Local DB (2)

AWS (1)

AWS (2)

Scanner (3)

Scanner (1)

Scanner (2)

DATA MANAGMENT SYSTEM

CONPASS DMS is a set of applications used to run X-ray people screening systems. The system allows operators to inspect people and view their accounts, perform data security screening, and view the obtained X-ray images.

REMOTE OPERATION
CONPASS DMS can unite X-ray scanners from seperate locations into one network keeping track of the total X-ray exposure dose for each inspected person, even when the person a undergoes a security screening process in different locations.

DATA SYNC
CONPASS DMS synchronises the information: inspected people's profiles, scan records, and X-ray images between all connected devices.

SECURITY
CONPASS DMS can be installed on the main server, an automated workstation (AWS) or a mobile device like a tablet.
The DMS manages the data and ensures data safety. All CONPASS data, stored on Operator's AWS, Server or transferred via network is subject to protection.
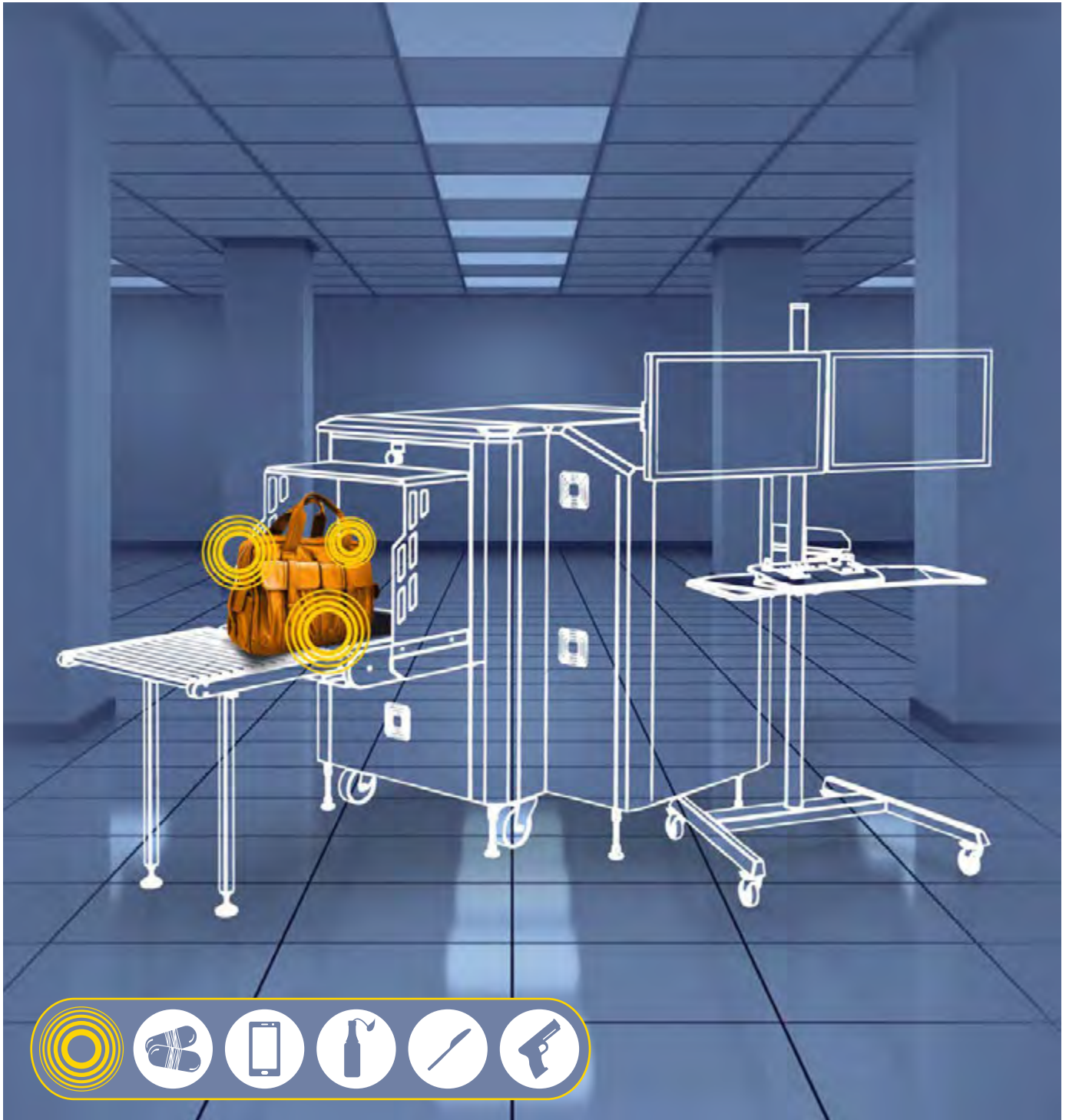
BAGGAGE SCREENING

JAILS AND PRISONS

MILITARY FACILITIES

MINES

SECURITY CHECKPOINTS

CRITICAL INFRASTRUCTURE

VIP RESIDENCES

BORDER CROSSINGS

AIRPORTS

PUBLIC EVENTS AND VENUES

AUTOMATIC DETECTION SOFTWARE

CUTTING-EDGE ARTIFICIAL INTELLIGENCE FOR X-RAY THREAT DETECTION
A-EYE

FEATURES:
- Automated detection of a wide range of threats
- High detection probability
- Low false alarm rate
- Developed using real threat objects (AI Algorithm based and tested on DSA Detection Threat Library)
- Supports inexperienced operators
- High speed automated security checkpoint screening

LINEV Group proprietary software A-EYE is an Artificial Intelligence system intended for the automated identification of firearms, firearms components, ammunition, knives and Pyrotechnics. The detection algorithm is an embedded part of the BV product line software.

The algorithm is built using real threat objects that could be expected at events and locations such as theme parks, concerts, sporting events, schools, or other venues which may require security checkpoints. The A-EYE algorithm considers diverse visual backgrounds in baggage consisting of variously dense packed items in any bag type.

The A-EYE algorithm increases threat detection capabilities for operators with any level of experience. Threats are visually highlighted on the screen by coloured boxes with category identification. Optionally, the software allows the system to automatically stop the conveyor when a threat is detected.

BENEFITS
OPERATIONAL COSTS OPTIMISATION

- Increases Operator's efficiency and detection probability
- Streamlined process provides better personal experience
- Minimises Operator's errors through adding an "extra pair of eyes" for X-ray image interpretation

PYROTECHNICS
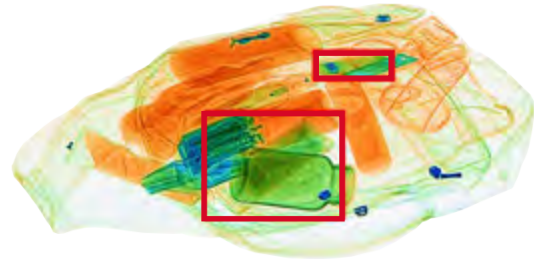
Ideal for sporting events, and public events, our advanced algorithms can recognise and detect flares and smoke bombs even in cluttered baggage

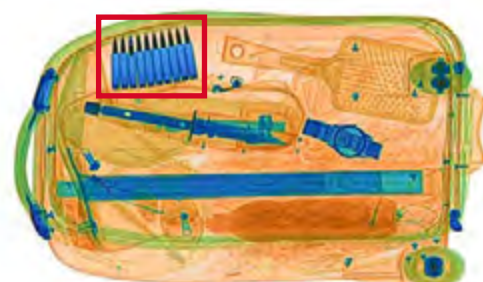### KNIVES
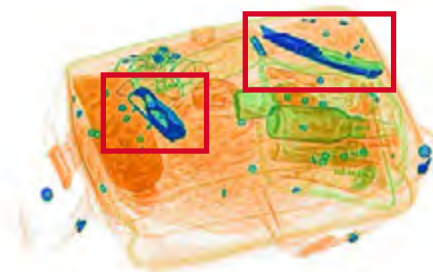
Combi knives, Jack-knives folded/unfolded/ partially folded, Swiss army knife, Lexan's knife, multitools, kitchen knives from 2.36"
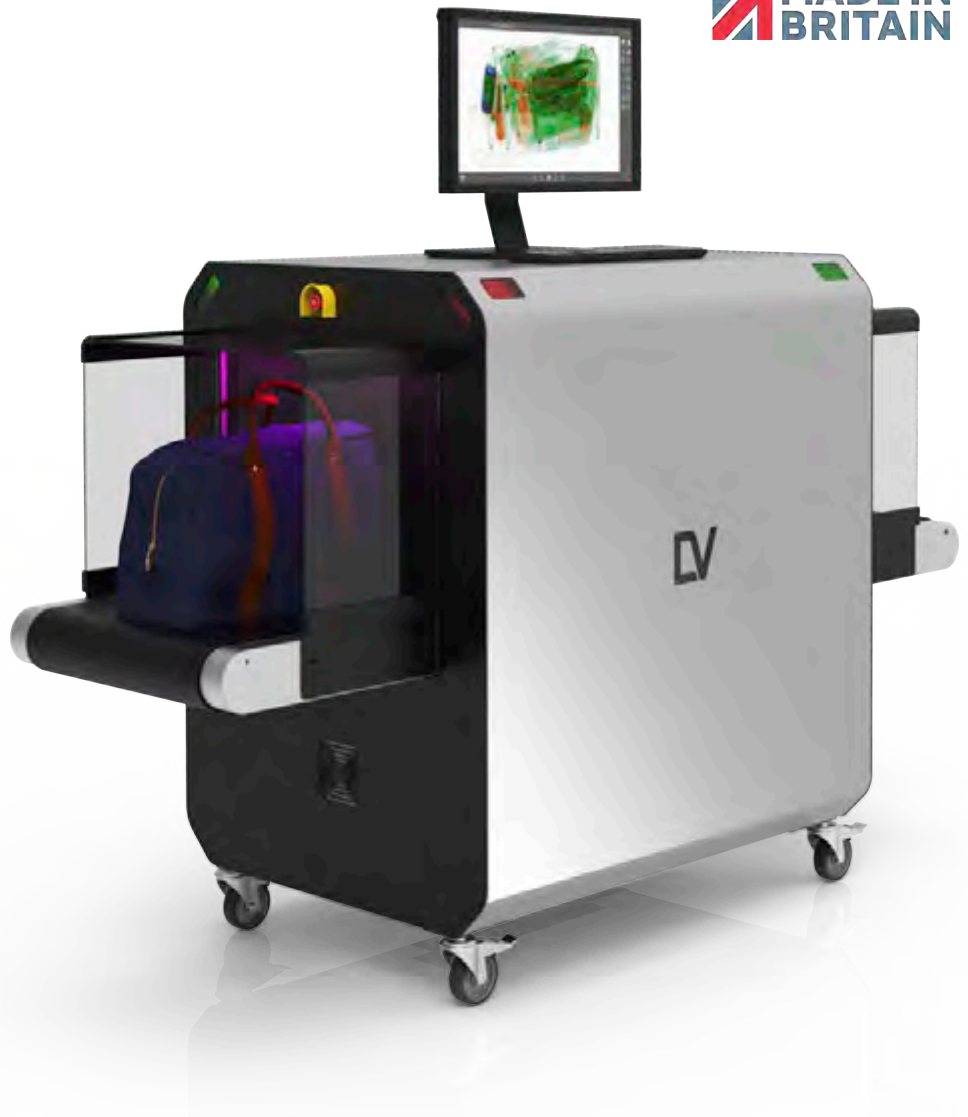
HANDGUNS

Assembled guns, gun parts, shotguns and submachine guns

AMMUNITION

Empty or loaded clips and magazines for automatic guns and revolvers, ammo of various calibers in bulk

SPECIAL INSPECTION SYSTEMS

MADE IN BRITAIN

PROTEUS

A Quantum Step Forward In System Availability And Innovation

FEATURES

Modular Architecture

Colour change

Telemetry (predictive analytics)

Artificial Intelligence software system for automated detection of firearms, knives and ammunition

Automatic identification of suspicious objects (drugs, explosives)

Availability of 7, 3 colour and infinite colour palettes of images

The fault-tolerant configuration of the acquisition/ analysis workstation

Quick start and shutdown

Real-time self-diagnostics

The PROTEUS 6045 is a high-resolution, single view X-ray baggage inspection system with the ability to automatically detect prohibited objects and threats.

The tunnel with a width of 610 mm and a height of 450 mm is optimal for inspection of baggage, bags, hand luggage and parcels. The System may be used at inspection points of critical infrastructure facilities, law enforcement and security agencies, customs, border guards, hotels, event centres, educational institutions, sports arenas, and other places where reliable and uninterrupted operation of inspection systems is required.

The PROTEUS 6045 enables the identification of weapons, explosives, drugs and any other dangerous or prohibited items. Unique colour palettes and touch control provide an exceptional level of operator efficiency.

BAGGAGE SCREENING

SPECIAL INSPECTION SYSTEMS

US PAT # 9,709,694 B2

BV M.A.X.

Mattress and personal kit inspection

A compact and mobile conveyor type X-ray screening system with 870mm x 240mm tunnel size. System was specially developed to be used in prisons and detention centres for the inspection of mattresses and inmates' personal belongings. Due to its mobile flexibility and tunnel dimensions, it allows the system to be used for other purposes, like NDT screening and more.

OBJECTS SUITABLY INSPECTED BY BV M.A.X:

• Prison mattresses
• Personal belongings
• Vehicle parts (doors, etc)
• Electronic devices (TV, monitors, laptops, etc)
• Packages, parcels and letters
• Paintings and art objects
• Other flat objects of different purpose

MAIN ADVANTAGES:

• Compact and mobile product
• Cost effective solution
• Accurate object inspection
• Material discrimination

BV STREAM

Customer-focused solution for high-traffic checkpoints

The biggest challenge faced with security checkpoints that require fast and efficient screening is slow throughput. This costs time and money. The BV STREAM has been designed with this in mind. Capable of screening personal belongings and bags using powerful AI detection software and only alerting the operator when there is a threat detected it keeps the flow and speed of screening as it should be. This highly versatile scanner can also be easily customised to meet the users environment or theme.
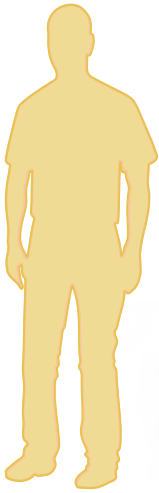
ALL TUNNEL SIZES

BV 5030CA

BV 5030

BV 6045

BV 6045DV

BV 6080

BV 7080DV

BV 100100TB

BV 100100DV

BV 160165/160180
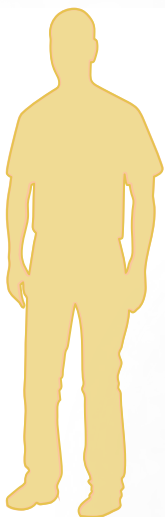
BV series **7080** tunnel size **DV** dual view

MOBILE SCREENING SYSTEMS

JAILS AND PRISONS	MILITARY FACILITIES	MINES
SECURITY CHECKPOINTS	CRITICAL INFRASTRUCTURE	VIP RESIDENCES
BORDER CROSSINGS	AIRPORTS	PUBLIC EVENTS AND VENUES

BV 6080M

BV 100100M / BV 100100DVM

FEATURES:

• Bi-directional scanning
• Single view or dual view
• Large tunnel sizes
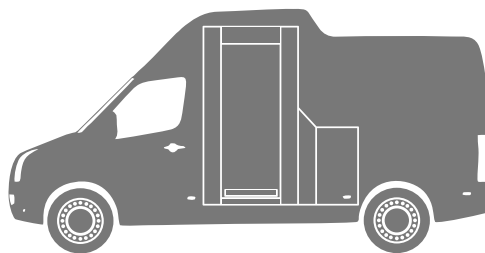• Can be fitted to various types of security vans

OPTIONS:

• Compatible with various vehicle models
• Registration software
• Passport reader
• CCTV
• Operator room climate control
• Hydraulic stabilisation system
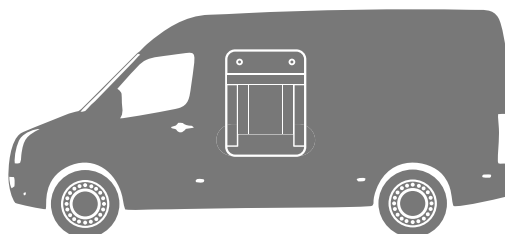• Folding awnings
• Radiation monitor

MOST COMMON MODELS USED:
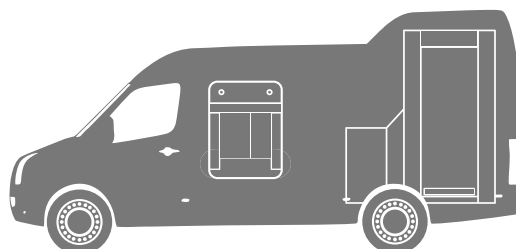
CONPASS
X-ray body scanner

BV baggage
X-ray scanner

BV baggage
X-ray scanner

CONPASS
X-ray body scanner

CONPASS X-ray body scanner

MIP CONPASS

Mobile people screening

• Security inspection point that comprises of a full body X-ray security system and operator workstation.

• Designed especially for it's flexibility and is perfectly suited for use by law enforcement agencies and event security managers.

• Has an autonomous power supply (no infrastructure required).

• Operates well in any type of weather conditions.

BV baggage X-ray scanner
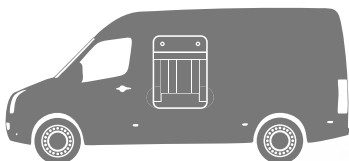
MIP BV

Mobile baggage screening

• An effective temporary checkpoint inspection solution for screening of personal belongings, hand luggage and small cargo.

• BV 6080M, BV 100100M and Dual View BV 100100DVM baggage systems are available for all MIP BV and MIP CONPASS BV van series.
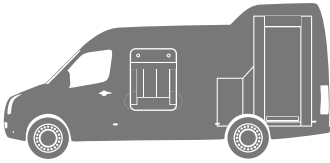
BV baggage
X-ray
scanner

+

CONPASS
X-ray body
scanner

MIP CONPASS BV

Mobile people and baggage screening

• A van based security inspection point that comprises of a full body X-ray security system, baggage scanner and operator's workstation. MIP CONPASS BV offers a sophisticated screening solution with a large tunnel size, providing fast, efficient and hassle free security screening anywhere where a van can go.

• Flexible design perfectly suited for use by law enforcement agencies and event security managers
• Operates well in any type of weather conditions and under a wide range of ambient temperature and humidity levels.

MIP-T CONPASS

A trailer-based solution

VEHICLE AND CARGO INSPECTION

AIRPORTS

BORDER CROSSINGS

SECURITY CHECKPOINTS

SEA PORTS

MILITARY FACILITIES

CRITICAL INFRASTRUCTURE

DUAL ENERGY TECHNOLOGY

DUAL ENERGY imaging technology provides an automatic colour coding material discrimination feature, which enhances the distinguishing between organic, inorganic and metal materials by colours (as a real indication of low Z-medium, Z-high, Z). This feature helps the operator to detect dangerous object made from various materials.

3 (THREE) COLOUR CODING

Z-effective range	Category
0-10	drugs, explosives, organics
10-18	gemstones, explosives, minerals
20 and over	metals, alloys

7 (SEVEN) COLOUR CODING

Z-effective range	Category
0-7	drugs, alcohol
7-10	explosives
10-14	precious stones, glass
14-18	bones, gypsum, salt
18-22	copper sulphate
22-35	brass, steel
35 and over	lead, quartz, gold, platinum

DTP OPTIONS

WEATHER PACKAGES
-30^{0}C ... +55^{0}C

AUTOMATIC NUMBER PLATE RECOGNITION SYSTEM (ANPR)

AUTOMATIC CONTAINER CODE RECOGNITION SYSTEM (ACCR)

UVSS
UNDER VEHICLE SURVEILLANCE SYSTEM

WEIGHBRIDGE

UPS
SYSTEM

MODULE FOR OPERATOR

INFRARED BARRIERS

PHOTO CAPTURING

ROADWAY GATE

REMOTE WORKPLACE

DIESEL GENERATOR

RADIATION MONITOR

VEHICLE AND CARGO INSPECTION

DRIVE-THROUGH PORTAL

Drive-Through Portal (DTP) systems are high-energy scanners designed for non-intrusive inspection of vehicles, cargo, containers and goods. These devices can be used in various inspection sites, such as airports, seaports, customs facilities, traffic control points, temporary storage, logistic centres, warehouses and other places where total cargo inspection is required. Due to the innovative drive-through operation design a vehicle can be driven directly through the portal. Moreover, the vehicle can be scanned without scanning the driver's cab and as a result the traffic flow is not hindered and the safety of the driver and passengers is not endangered. The new system design reduces the overall operational area. The DTP product line provides a wide range of high-performance, cost-effective and reliable solutions that will guarantee protection from threats and contraband while maintaining a smooth traffic flow and minimising the total cost of inspection.

FEATURES:

• Throughput capacity up to 120 vehicles per hour
• High quality image with 7 colour-coding
• Warranty of the system up to 7 years
• Ready to use operator module in the form of 20" container with conditioning system and operator`s workstations

INSPECTION SYSTEMS

FEATURES:

• DRIVE-THROUGH TECHNOLOGY. While vehicle is passing through scanning tunnel, the driver's cab is automatically excluded from radiation.
• MOBILITY. The DTP products can be easily relocated by a standard container truck and completely installed with the support of only 2-3 operators.
• SMALL FOOTPRINT. The deployment of the DTP products requires a relatively small ground surface without the necessity of creating additional infrastructure.
• HIGH THROUGHPUT. Due to drive-through (free-flow) operation mode, the DTP system can inspect up to 120 vehicles per hour.
• HIGH PENETRATION. The DTP system provides high quality X-ray images of inspected objects, with a penetration up to 400 mm of steel at a speed of up to 10 km/h.

INTEGRATION:

• Automatic number plate recognition system (ANPR)
• Under vehicle inspection system (UVIS)
• Integrated radiation portal monitor (IRPM)
• Several systems could be united into the one digital monitoring complex CargoDMS
• Systems could be integrated into any existing infrastructure

OPTIONS:

• Weather package from - 20 °C to +55 °C
• For large objects the system achieves 3 images: 320kV+320kV+7,5MeV
• Remote station for image analysis
• Uninterruptable power supply for the whole system
• Diesel generator
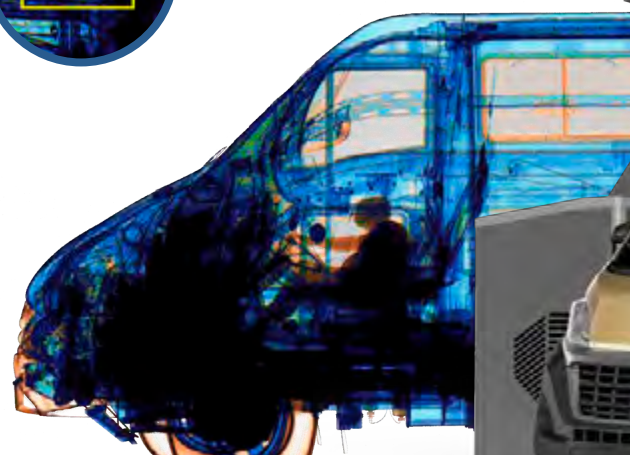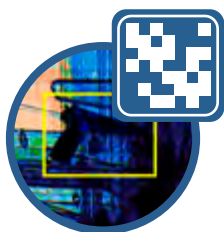• Betatron-based system ensuring lower scanning dose in comparison with linac-based units.

SINGLE VIEW SOLUTIONS

DTP 200LV

Ultra low dose passenger vehicle X-ray inspection system
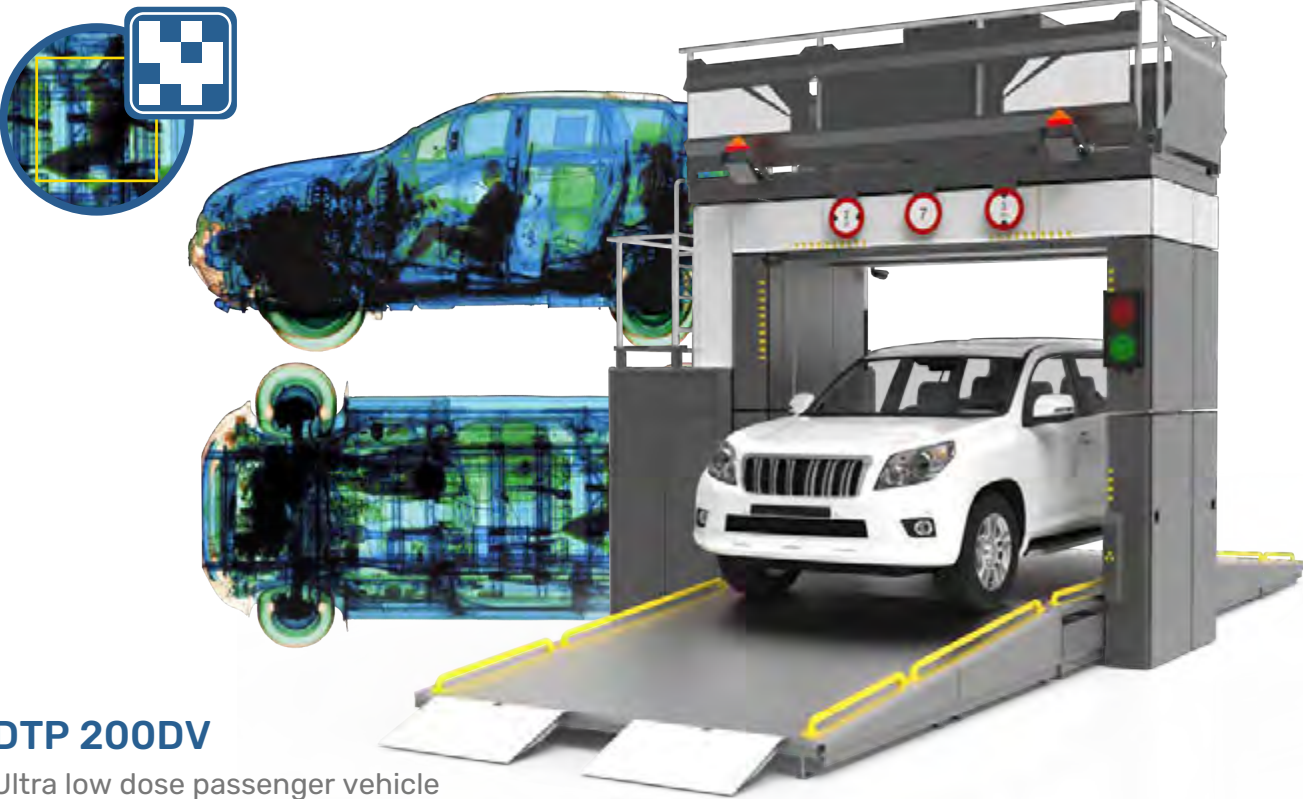

DTP 320LV

High penetration passenger vehicle X-ray inspection system

DUAL VIEW SOLUTIONS

DTP 200DV

Ultra low dose passenger vehicle
X-ray inspection system

DTP 320DV

Ultra low dose passenger vehicle X-ray
inspection system
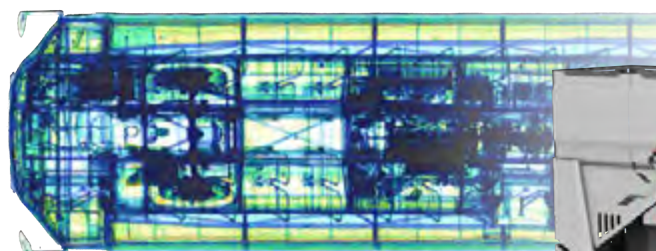
SOLUTIONS FOR LARGE VEHICLES

DTP 200LVB

Large portal passenger vehicle X-ray
inspection system

DTP 320LVB

Vehicle and cargo X-ray inspection system

DTP 320DVB

Dual view X-ray inspection system
for cars, trucks and coaches

LARGE VEHICLE AND CARGO INSPECTION

DTP 7500LV

Dual energy stationary X-ray inspection
system

DTP 7500LVR

Autonomous relocatable container-
mounted X-ray inspection system

DTP 6000LVG

Large portal passenger
vehicle X-ray inspection system.

UNIVERSAL SOLUTIONS FOR SMALL, MEDIUM, LARGE VEHICLES AND CARGO

DTP 7500/320DV

Dual view X-ray inspection system for cars,
trucks, coaches and cargo.

• The state-of-the-art dual-view, dual-energy drive-through X-ray scanner with a portal-shaped detection system.
• Intented for the inspection of trucks with driver cabin, cars, coaches, loaded vehicles (with containers or general cargo).
• Designed to identify the cargo compliance of these vehicles by detecting the transportation of contraband, illegal drugs, weapons and other dangerous objects.

• Can be used at seaports, traffic control points, customs, temporary storage warehouses and other places where 100% cargo inspection is necessary.
• The aquiring and analysis of X-ray images is performed and controlled by software on automated workstations.
• The system can substitute two regular systems providing inspection for both light passenger and large cargo vehicles.

AUTOMATIC DETECTION SOFTWARE

HUMAN TRAFFIKING

Vehicle inspection systems reveals hidden people

Borders are vital economic gateways that account for trillions of dollars in trade and travel each year. X-ray security inspection systems that can be used for border protection from illegal transportation of weapons, drugs, contraband and people while promoting lawful entry and exit, are essential to homeland security, economic prosperity, and national sovereignty.

The drive-through portal systems image shown here was taken at a border checkpoint, it reveals a hidden person in a light vehicle. This is a common and easy way to transport terrorists or illegal migrants across borders.