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Since 1988, Tempestini

CHECKPOINT SOLUTIONS



Company profile

Tempestini was founded in Rome in 1983

During the 33 years of experience the company has been active in the EMEA and APAC regions by means of an international network of agents.

Key factors

1. Audio, video and data transmission, distribution and management systems, from mobile platform on land, air and water;
1. Constant analysis process of the security market evolution, selecting the most performing products, systems and solutions;
2. Customer oriented approach resulting in the customization and integration capability to fulfill the specific requirements.

Some References

National

- Carabinieri , Italian Army, Navy, Airforce, Ministry of Interior, Custom Police, Prison Police , Civil Protection, Research and development Institutes

International

- Nato Airforce headquarter
- Portugal Police Special Force departments and Gendarmerie
- U.A.E. Ministry of Interior

International exhibitions attendance

- Eurosatory
- Idex
- Milipol

Index

- Summary
- Vehicle Control: Laser Spectroscopy, License plate recognition, Under vehicle
- People Control: Biometric Recognition, Face Rec
- X-Ray: Car, Truck , Cargo Scanner
- Manual Inspection: Explosives Detection (Sniffers, EDD kits)
- Airport Division Detection Software

Summary

Survey and specific case solutions

- The system we propose will INSPECT all vehicles from a distance of at least 300 meters before they reach the checkpoint.
- Our solution also foresees the monitoring of the driver and of the passengers, more precisely; data (documents and images) of the driver and of the people who enter the city will be taken and stored.
- The system will acquire 100% of the vehicle number plates and it will be integrated with control of the body of the vehicle and matched with the documents and images of the driver and passengers.
- Each vehicle will stop; all passengers will get off and will be asked to open the trunk of the car or of the van. Various cameras, positioned according to the different types of vehicles and to the kind of lane (car, truck and bus), will be used to scan the inside of the vehicle. This operation will be managed remotely by an operator sitting in the control room.
- We will ensure regular non-invasive monitoring of people, such as body scanners and document capture and data simultaneously also here we will be associated, therefore backward you can have the data of all the people came into town

Summary *(continue)*

With regard to behavior protocols, the channeling of the suspect car in an isolated dedicated anti-explosion area will be conducted before the arrival at the checkpoint, where there will be a barrier. If there is a suspect vehicle this will be isolated in the dedicated area, and then checked with the mobile X-ray and robot and then detonated with the support of specialist operators. Even the cars that are part of the black list will be isolated in an area that will not affect the incoming traffic into the city and subsequently controlled with mobile X-ray and or robot.

All cars with license plates partially readable or coming from a high risk region will be controlled by fixed and mobile X-ray devices. The system will also automatically detect situations defined by the operator as "abnormal" for example: the same number plate installed on several different cars.

Aim of the system:

- a) All incoming vehicles will be checked as well as the drivers and passengers travelling in the vehicle.
- b) All suspect/reported (as stolen) vehicles will be blocked.
- c) Even if a vehicle entered the city and a terrorist or bomb attack took place, using this system an immediate investigation could be carried out in order to identify the vehicle using the information on the database, such as time and date of entrance, side of the city, name and document of the driver and of the passengers, number plate and color of vehicle.

Vehicle control

- Laser Spectroscopy Technology
- License Plate Recognition
- Under Vehicle Inspection System
- ANPR & UVSS Security Systems

Laser Spectroscopy Technology

Laser Spectroscopy Technology:

Before the vehicles arrives at the checkpoint will be submitted at a distance of 300 meters has a checking to find out if a potential risk. We propose a solution based on laser technology. This solution has been developed and deployed working materials detection systems utilizing a variety of laser spectroscopy technologies and proprietary methodologies. The integrated systems deliver capabilities and benefits that address unmet needs in a number of attractive markets.

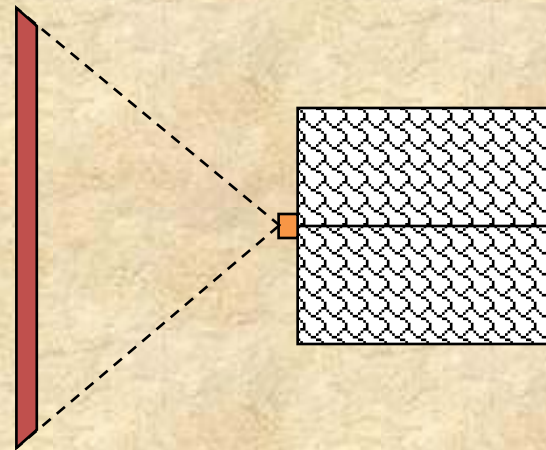
The Solution performs standoff sensing and trace detection of a variety of materials, including explosives, narcotics, chemicals, biological substances, and minerals.

The technology can:

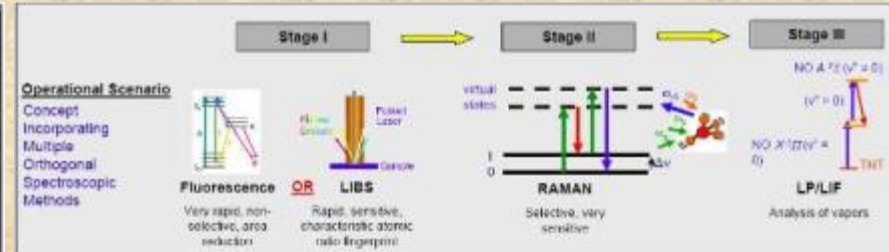
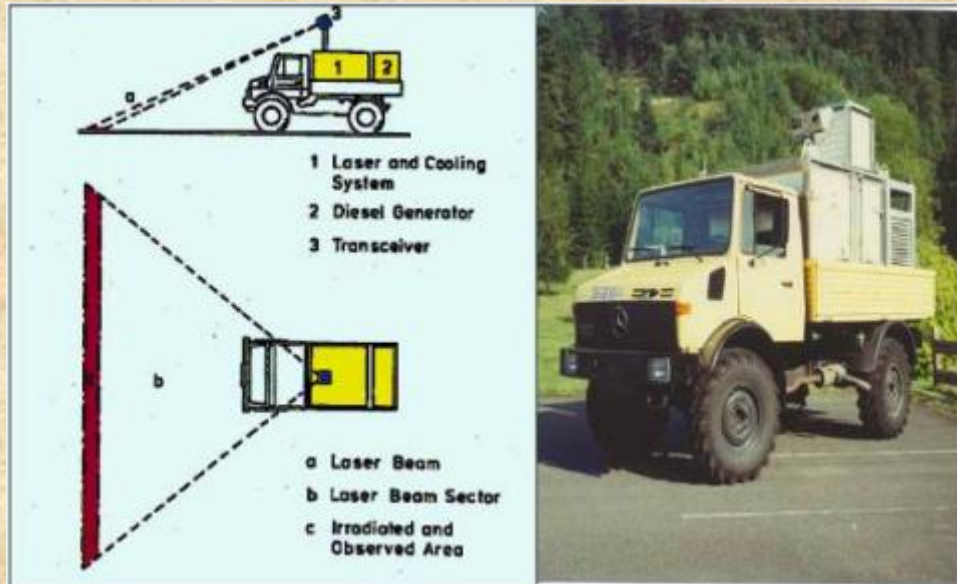
Detect minute quantities of substances including materials with low vapor pressures.

Perform standoff automatic real time detection and identification.

Provide a highly specific characterization of the individually manufactured materials, up to determination of their source of production.



- The Solution uses laser spectroscopy technology for in-situ detection of materials without the need for sampling.
- The system uses various spectral analysis tools to achieve automatic high throughput identification and detection of any substance.
- The system can stand alone or be integrated into existing scanning devices.



Explosives and Backgrounds In TMPSYS' Data Base

UN – Urea-Nitrate

ANFO – Ammonium-Nitrate Fuel-Oil

TATP

Semtex – mixture of RDX and PETN

TNT including by-products and mixtures

– Comp B (mixture with RDX)

– DNT

RDX and mixtures

– C4

– A5

TENN

PETN

HMX

Background Materials:

Painted metals

Soils

Rocks

Cloth

Plastic

Glass

Wood

Present Abilities:

- Capability for traces detection from 30-50 m
- Real-time response
- Unmanned platform
- Personnel-safe

License Plate Recognition

Sys Plate is an advanced vehicles logging and image database management system that has a wide appeal for government users.

The system includes a fully interactive and integrated platform for a wide range of static and mobile applications from access control to motorway surveillance.

It provides state-of-the-art intelligence support for surveillance needs of the Police, Military or Paramilitary organizations. Commercial applications include car park management, estate management and journey time analysis.

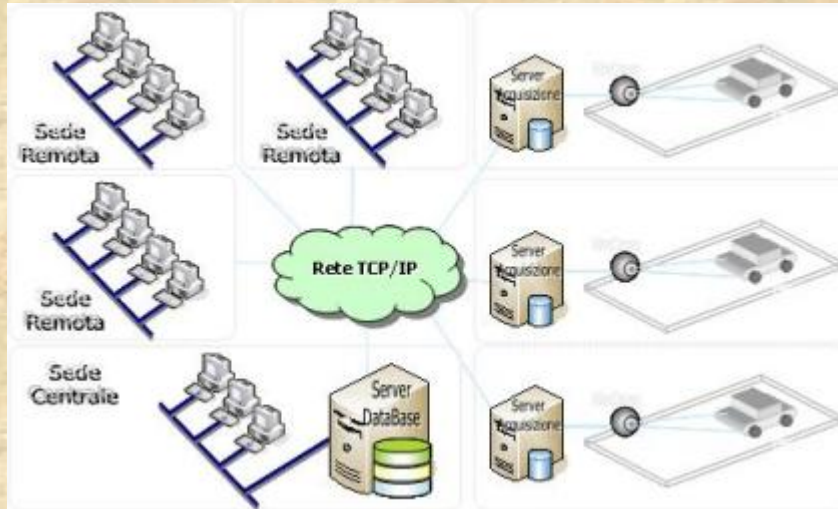
The system monitors the traffic via ANPR cameras and can be used to match passing vehicles against a target list and record multiple color overview images of the car from high resolution or pulsed infrared cameras as the plate is captured.

As wellbeing strategically positioned in static situation, the system can also be installed in a vehicle or transportable containers.



The system is based on TCP/IP network infrastructure utilizing Client/Server type architecture.

The figure below illustrates the system architecture:



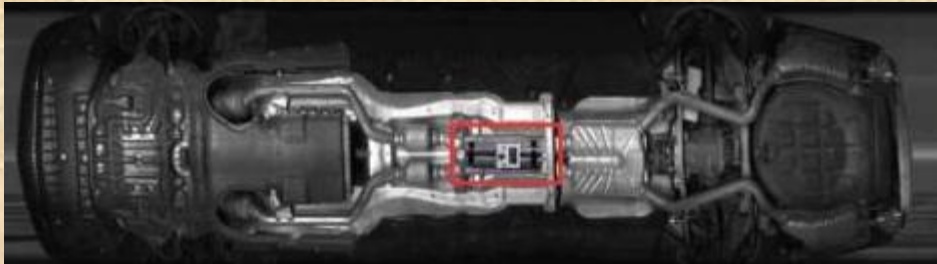
Under Vehicle Inspection System

The TMPSYS-Scan under Vehicle Inspection System comprises a TMPSYS-Scan scanning unit, TMPSYS-Scan Server and Workstation, and special TMPSYS-Scan connection cables.

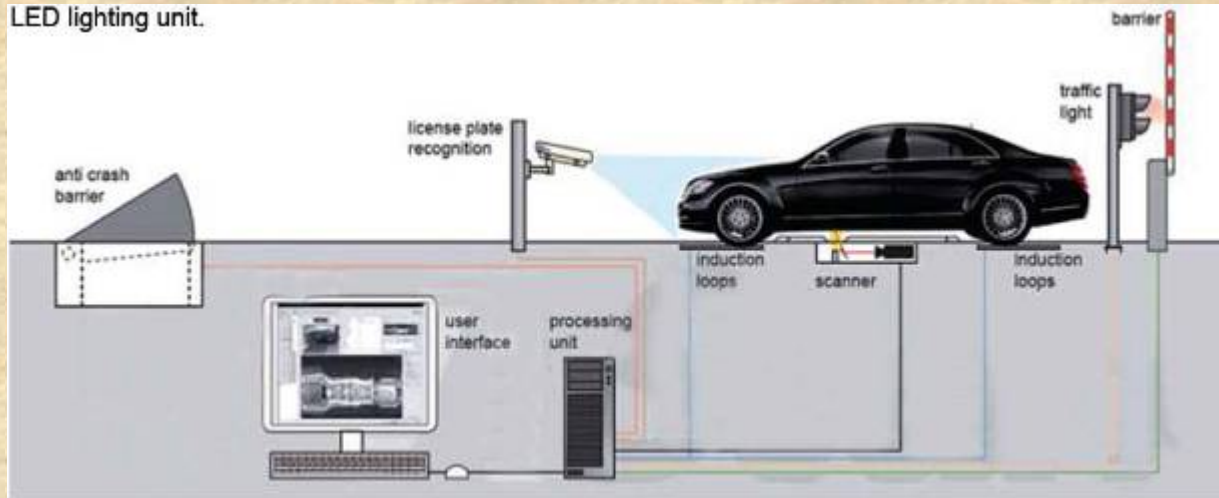
The scanning unit is placed in a stationary outer housing for fixed installations, or in a mobile set up with rubber pads or aluminum ramps. The scanning unit has a line camera, a mirror and an infrared LED lighting unit.

Through a small slit in the scanning unit, the camera captures the entire underside of a vehicle in moving traffic.

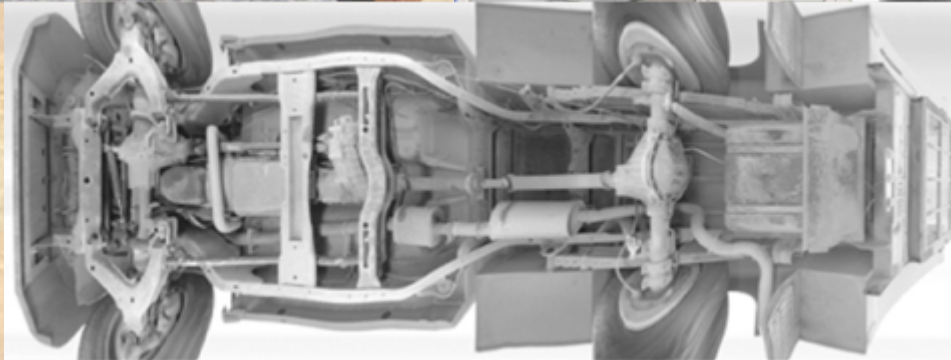
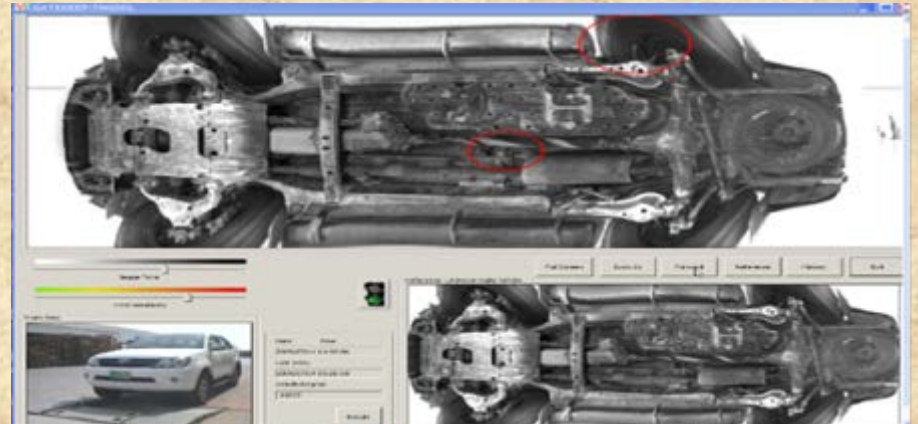
In order to display the scan image to scale, different heights of undercarriages (car/truck) as well as the vehicle length are taken into account. The scan image is then displayed as high-resolution image on the user interface screen.



The TMPSYS-Scan system is available with various options, such as License Plate Recognition, a Central Server, Additional Workstations, Automatic Comparison, Traffic Lights, but also with Custom Made options if required.



ANPR & UVSS Security Systems



People Control

- Biometrical Facial Recognition
- FaceRec - Virtual 3D Facial Recognition Tagging, Identification and Tracking

Biometrical Facial Recognition

YOUR FACE IS YOUR ENTRANCE KEY

TMP-entry is an innovative and advanced biometric solution that uses individual's face as a key to grant access of use to premises which needs to be secured against unauthorized individuals.

The ability to permit or deny the use of a particular resource by a particular entity is based exclusively on positive authentication of the individual.

Biometrics overcomes the trouble caused by an access card/key changing hands, getting lost, broken etc. Within the biometric offerings, face recognition is perceived to be the most precise, non-intrusive, fast and customer friendly.

To enable access, the persons face picture must be taken and stored into TMP-Entry's database (i.e. enroll process).

Thereafter, when the person approaches the access door TMP-Entry takes his picture again and verifies it with the person's faces in its database. If a match is found the system unlocks the door and logs the transaction.

If TMP-Entry doesn't find the person during the verification process the door will be kept locked. An Unauthorized person's photo is captured and stored in the database and the transaction is registered in the activity log for further investigations. The image acquisition part of TMP-Entry meets the geometric requirements and best practice geometric recommendations of ISO/IEC 19794-5:2005 standard.



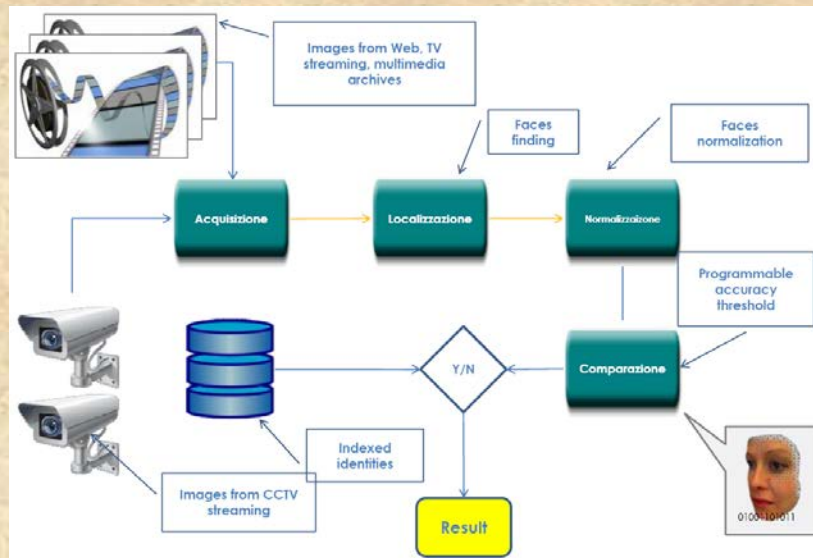
FaceRec - Virtual 3D Facial Recognition Tagging, Identification and Tracking

What is TMPSYS-FaceRec ?

- TMPSYS-FaceRec is a software system able to index the faces located within any video files or live streaming, making them usable for any process of searching or identification of individuals, both for investigation, professional usage or entertainment.
- TMPSYS-FaceRec uses sophisticated facial recognition virtual 3D (virtual 3D Facial Recognition) algorithms.

Why TMPSYS-FaceRec ?

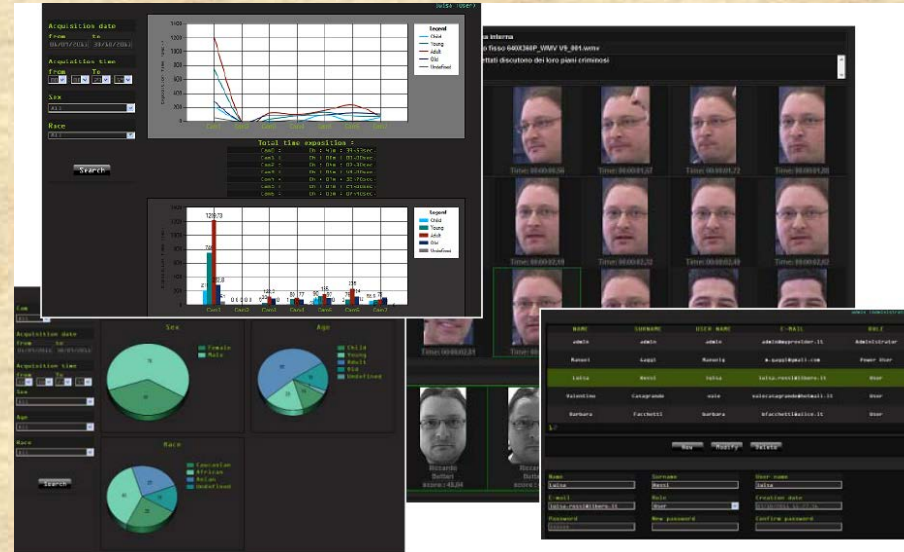
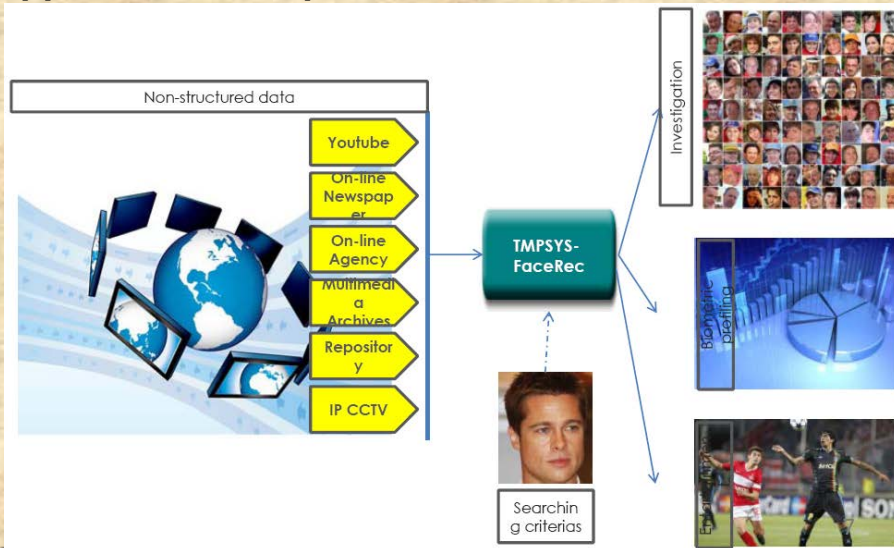
- TMPSYS-FaceRec changes investigation approach because it allows analyzing and comparing the morphology of a face with all those stored in a database, local or remote, returning a real-time list of resembling identities and drastically reducing the set of images to be consulted during an investigation project.
- TMPSYS-FaceRec changes searching mode in the Web: not just a navigation by label or file name, but a new way to find out and move within a digital content to recognize the desired subject.



Facial fast searching

- The mathematical vector of a 3D face is able to represent the identity of a subject in less than 100KB, including virtual poses built on four axes.
- The facial vector has a key value in the recognition processes, since the performance increases significantly in terms of search time (the comparison of the faces is based on arrays comparison and not on bitmaps).

Application examples



X-Ray

Car, Truck , Cargo Scanner

TMPSYS Occupied Car Scanner

The TMPSYS Occupied Car Scanning System is a drive thru x-ray scanner for screening occupied cars, minibus's and van's, it assists security operators in identifying the presence of hidden persons and contraband, such as weapons, explosives and narcotics.

Applications

- Airports;
- Border check points;
- Government facilities;
- Hotels
- Military bases;
- Seaports;
- Sporting events;
- VIP facilities.



The TMPSYS Occupied Car Scanning System significantly increases detection capabilities at borders, military checkpoints, national infrastructure, and other high-security locations.

Concealed items are quickly identified in vehicles travelling at normal checkpoint speeds, reducing wait times at border crossings and other high-volume checkpoints sites.

The TMPSYS Occupied Car Scanning System uses a proprietary dual energy transmission X-ray technology which requires only a single view penetrating through the entire vehicle from to greatly minimise blind spots.

The x-ray generator is located in the portal above the target vehicle and the detectors are located in housing beneath the vehicle, the x-ray beam is passed through the vehicle top to bottom. The resultant image is easily interpreted by the operator.



Advantage - With other competitor systems the beam is directed from the bottom of one side of the target vehicle diagonally through the top of the other side of the vehicle, producing a distorted image that is difficult for the security operator to relate to and spot anomalies.

Organic objects are highlighted in easily understandable colour-coded images that practically eliminate clutter. Advanced algorithms measure the dimension and weight of concealed organic masses providing additional useful information to the operator.

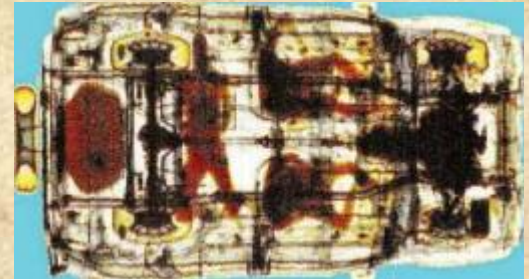
Radiation Safety

- The X-ray level used in the TMPSYS Occupied Car Scanning System is extremely low, about 1/10,000th of a typical medical X-ray;
- Each scan exposes the vehicle's occupants to about 5 microRem of radiation;
- For comparison, naturally occurring radioactive materials in the air and soil expose all persons to 300 microRem per day;
- Airline passengers receive about 500 microRem each hour during flight, due to the increased elevation;
- The TMPSYS Occupied Car Scanning System complies with ANSI/HPS N43-17, the primary standard in the U.S. for general purpose security screening of humans using Xrays.

Detection Capabilities

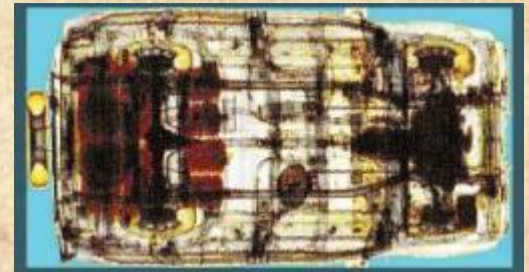
Organic threats such as explosives, stowaways, and drugs are displayed in shades of yellow and red, allowing the operator to quickly understand the vehicle's contents.

Three people and the gas tank are clearly identified in this image, the system reveals hidden persons in cars, minibuses and vans.



Car Bombs

A simulated 500 lb car bomb can be seen in this image. A car bomb capable of significant destruction will be nearly impossible to conceal in a vehicle inspected by this system.



RoboScan – Robotic Scanning System

The only scanner in the world fully remote operated by a single operator from a safe distance, ensuring total protection against ionizing radiation.

Overview

The increasing growth of terrorist activities, contraband and illegal transportation drives the demand for high performance security systems. Special attention needs to be paid to the area of international cargo transport that is usually the preferred vector for the contraband with weapons, radioactive and explosive materials, narcotics and other forbidden material, easy to be hidden inside large volume of goods. The daily increasing volume of transported cargo makes it impossible to physically inspect all suspicious transports.

The TMPSYS-ROBOSCAN award winning technology provides a safe, reliable and optimized solution in terms of throughput of more than 200 scanned long vehicles/hour.

It is the most technologically advanced gamma scanner available in the world market with impressive image analysis capabilities that ensure the highest productivity for cargo inspection applications without compromising the safety and security of the operators.



TMPSYS-RoboScan 1MC's internationally patented remote operation principle is a unique feature with positive impact on operation costs, making it the only mobile scanner that guarantees zero professional radiation exposure for its operators and total protection against incidents caused by dangerous cargo or terrorist attempts targeting security checkpoints.

Having gathered a consistent amount of international awards including The World Intellectual Property Organisation „Invention of the year” award, this proven concept has received international validation both from the scientific community and from security professionals on all continents.



Operating Modes

MOBILITY is a key aspect in today's border security with ever increasing threats, with fast paced changes in the rules and standards of security and safety.

TMPSYS-ROBOSCAN is a highly versatile mobile imaging system, allowing 3 operating modes:

1. Scanning one by one of stationary vehicles (optimized solution in terms of penetration and image resolution)



2. Sequential scanning of a number of vehicles placed in a line for a higher throughput



3. Fixed portal scanner (the inspected vehicles can be driven by their driver in order to be fully scanned at low speed of 5 to 15 km/hour that generates an optimized solution in terms of throughput of more than 200 long vehicles/hour).



Key Features

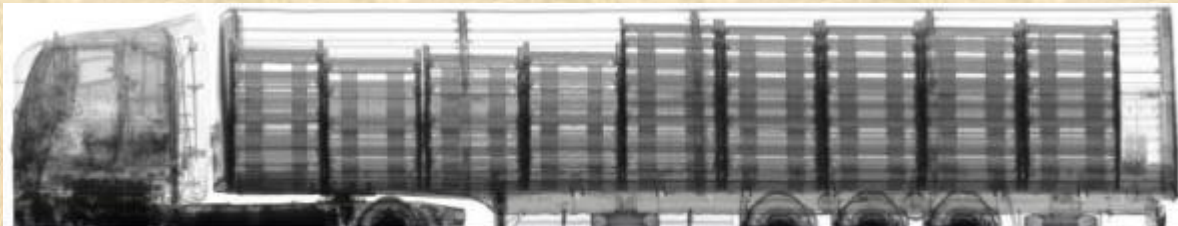
Maximum Safety

TMPSYS-ROBOSCAN 1MC fully eliminates the risk of professional or accidental exposure to ionizing radiation by controlling all scanning processes from a Mobile Control Centre (MCC) that can be supplied either as a rugged pelican-case or as a towable air-conditioned caravan. The MCC is placed safely outside the exclusion area during scanning and is carried by the MSU in transport mode.

The operation fully automated, interactive and extremely simple, based on the principle of touching intuitive icons and displaying permanently the status of the system, as well as the sequence in progress. The imaging subsystem hardware has a special shape and structure constructed in welded aluminium. The boom is automatically deployed in just a few minutes by simply touching an intuitive icon on the operator interface.



Imaging Performance



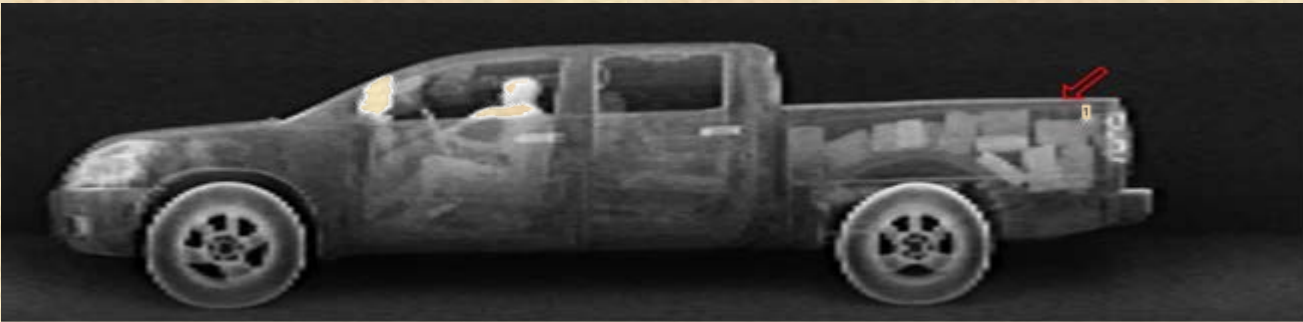
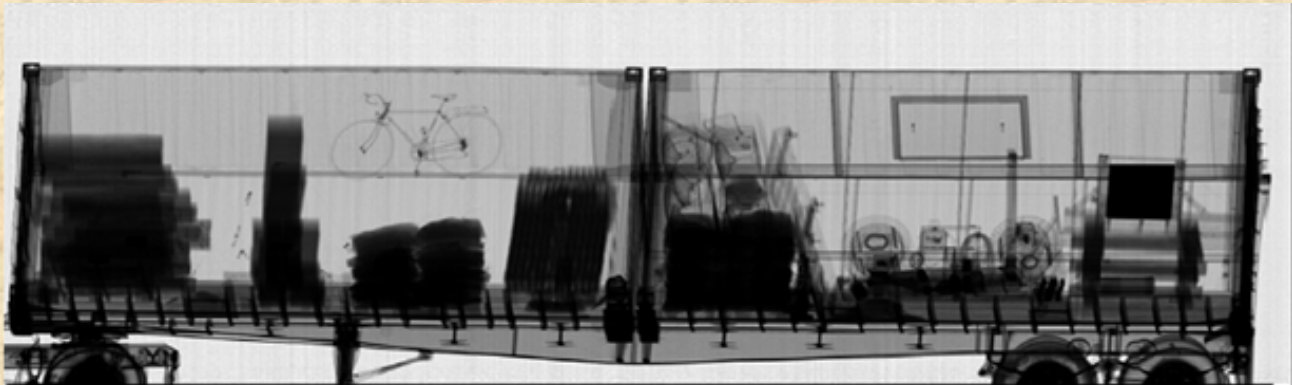
Wood pallets – standard view

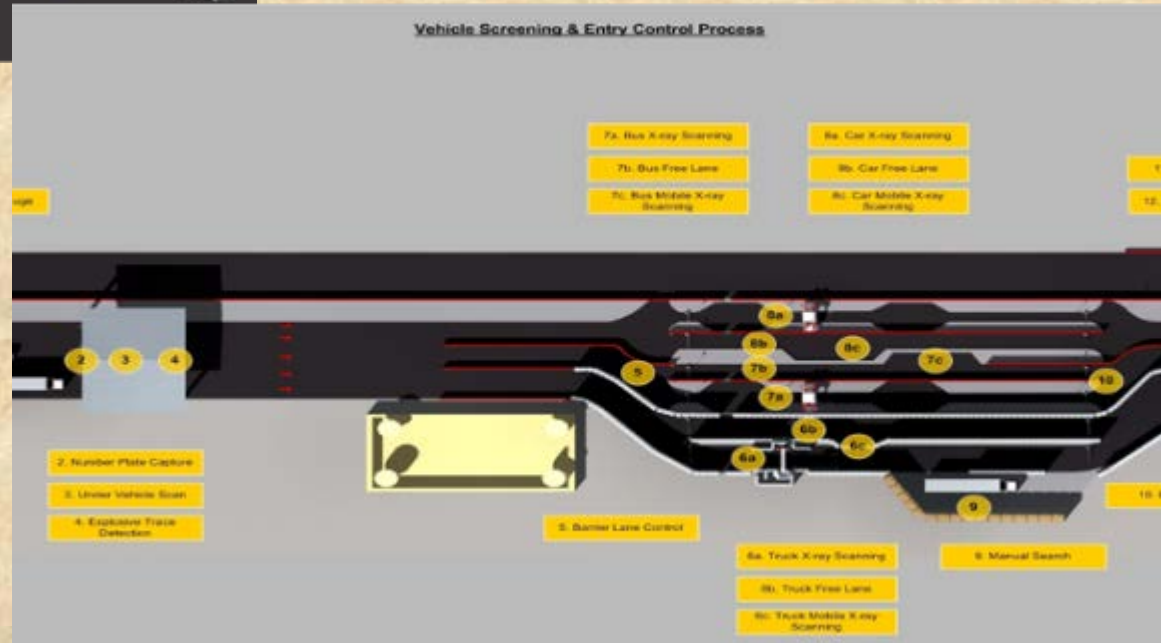


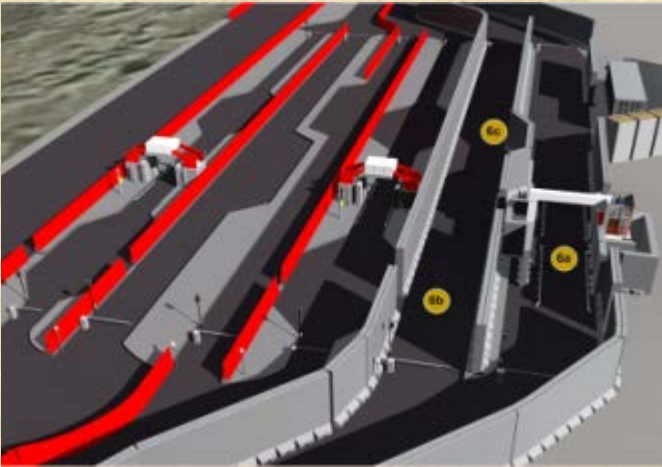
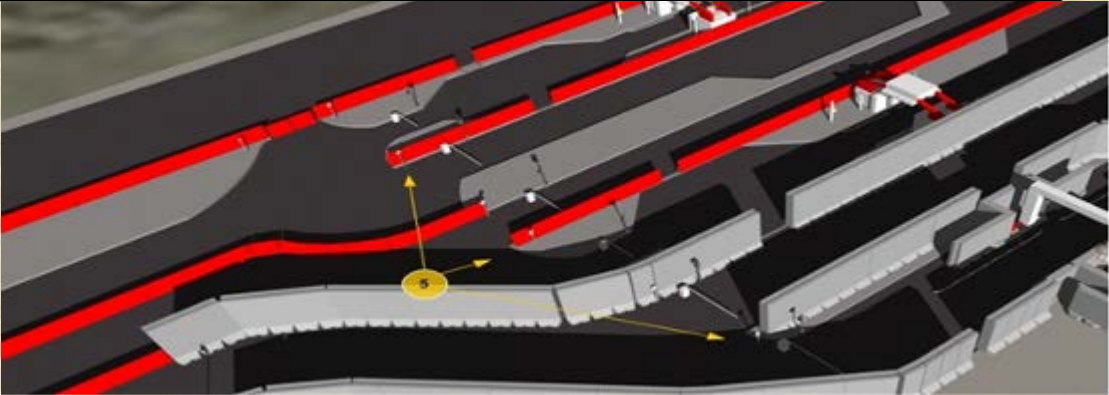
Road tanker – standard view

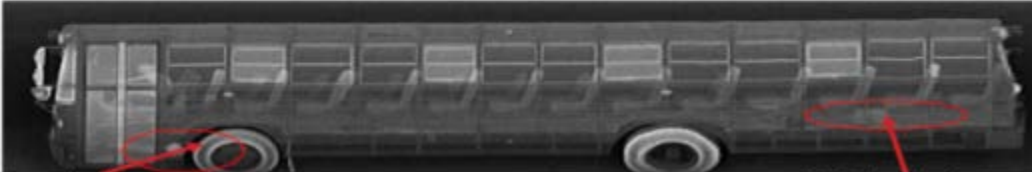
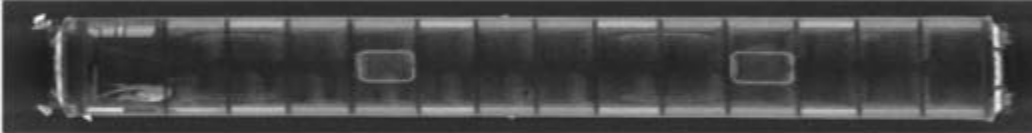
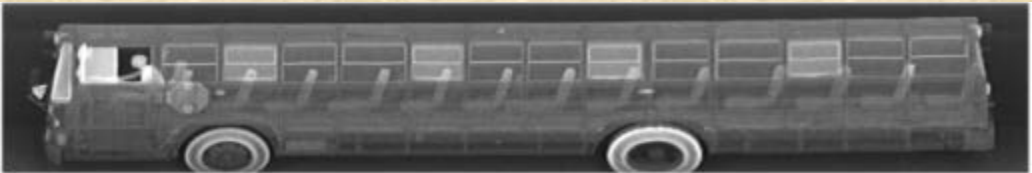


Rubber tyres – material separation view







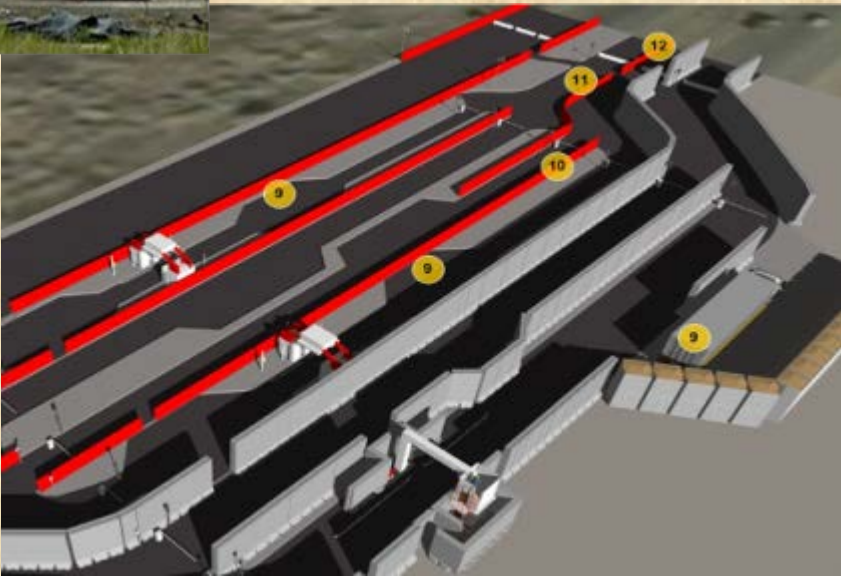


Drug Simulant

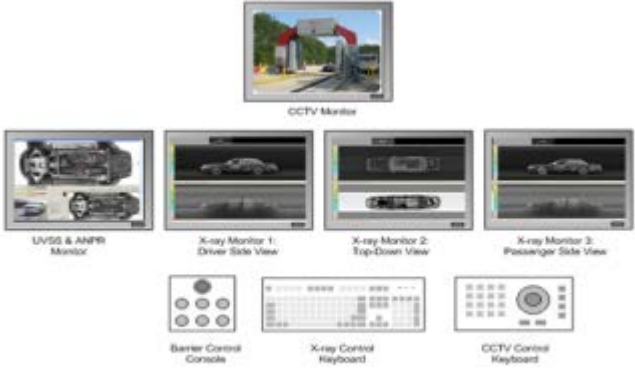
Explosive Simulant



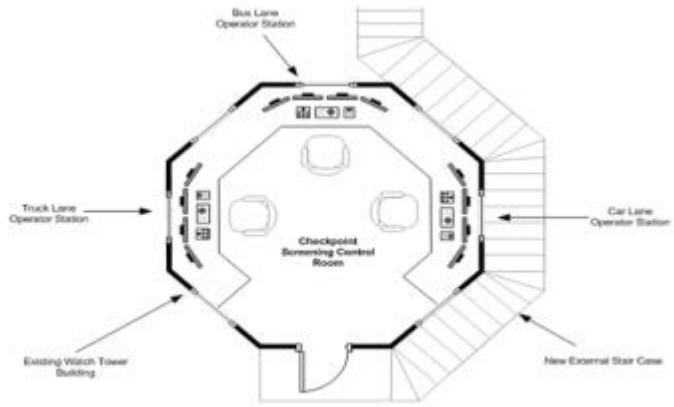
This Z Backscatter image reveals explosives hidden in the trunk of a car (circled in red). The ZBV's continuous screening capability allows security officials to quickly scan unattended lines of vehicles.



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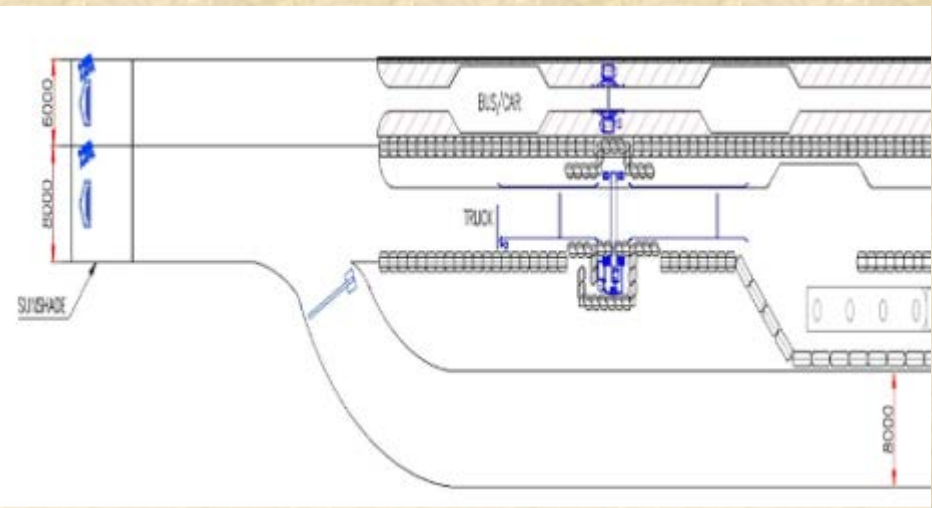
Operator Station Layout



Control Room Layout

Video Management Systems





TMPSYS CARGO SCAN - MOBILE Series

- Inspect Vehicles and Cargo with High
- Energy X-Ray Imaging System
- Operational Flexibility with Multiple Scan Modes
- Mobile - Rapid Deployment
- Material Separation and Radiation Detection Options

The TMPSYS Cargo 45 & Cargo 60 offer best – in - class imaging, robust standard features and advanced options that make them the most user- friendly and flexible mobile systems available.



The Cargo Mobile series is designed to scan trucks and cargo containers to verify the contents and to identify the presence of hidden contraband, such as weapons, explosives and narcotics. Optional capabilities to help find low density contraband and radioactive material in cargo are available with the Cargo 60. The unit is fully self-contained with all of the equipment and features required to perform inspections at locations, such as seaports, border crossings and roadside checkpoints.

The Cargo Mobile series have a 4.5 MeV or 6 MeV X-ray imaging system with the detector array mounted in an L shaped boom. For transport, the boom is stowed and for scanning it is deployed to form the inspection tunnel.

The Cargo Mobile scans by driving past one or more unoccupied stationary objects in the forward or reverse direction. It also has two optional drive-through scan modes that scan trucks as they drive through the stationary inspection tunnel.

- In the drive-through portal scan mode, only the cargo is scanned with the system activating only when the drivers cab has passed through.
- The Cargo 45 and Cargo 60 is fitted with a patented boom design to enable scanning of 5.0 m tall objects.
- Producing high-quality X-ray image of a vehicle or cargo container and its contents, the scan image is immediately displayed on a monitor in the onboard Inspector Cab.
- The onboard inspector then evaluates the image using the comprehensive features of the TMPSYS Cargo Viewer software.
- Images can also be sent wirelessly to a nearby inspection office for review by off-board inspectors.
- With no dedicated land, buildings or infrastructure required, TMPSYS Cargo Mobile series cargo and vehicle scanners provide operational flexibility and with everything required to perform a scan onboard, able to drive to an inspection site on local roads and within 30 minutes is ready to inspect.



TMPSYS-Scan CARGO Gantry **4.5 and 6 MeV**

X-ray inspection system based on electron accelerator represents a light version of X-ray system for inspection of vehicles with a broad spectrum of opportunities for fast and effective test of cargo in inspection points.

Because of its high penetrability the x-ray system makes available information of transported cargo without necessity of container opening and carrying out its manual inspection.

Operation of inspection system is based on operator analysis of high quality radioscopic image, displayed on a monitor during vehicle scanning.

Due to optimization of radiophysical beam parameters X-ray system doesn't require radioprotective structure and can be located in lightweight building made of sandwich panels.

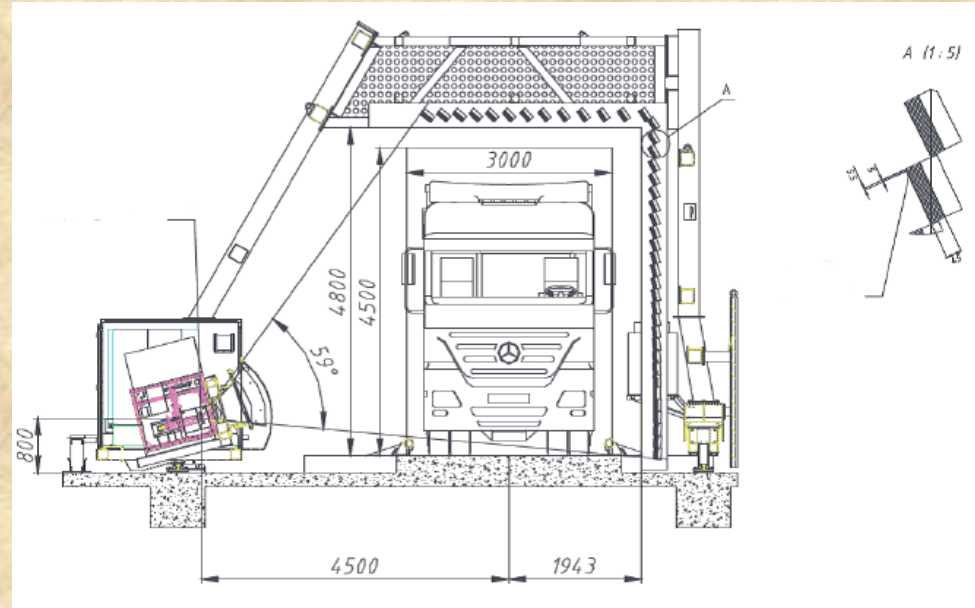


Basing on the world experience, engineers of TMPSYS implemented technical solutions, which allow to analyze scanned images in the most fast and suitable for operator way, comparing images with shipping documentation.

One of distinctive features of TMPSYS Cargo 4.5 & 6.0 MeV is ability of materials discrimination of different physical nature independently of cargo complexity and packing density including weight evaluated function.

The customer has possibility to build up a distributed control and safety system, operated from one datacenter regardless to the distance to the remote inspection points. Received data are accumulated in common database and can be used for analytic work and for operator training.

Complex TMPSYS Cargo 4.5 & 6.0 MeV is a set of fundamentally new technological solutions that enable accurate recognition of 3 groups of materials for effective atomic number and evaluate a mass of the cargo and individual objects with an accuracy of more than 10%.



MANUAL INSPECTION

- Manual Detection of explosives
- Sniffer and Identification Systems
 - TMP-E5000 - Portable Advanced Explosives Detector
 - Mini Explosive Agents Detector/Sniffer
 - Explosives Detection Devices (EDDs)
 - Explosives detector - CRO-P.E.T. & CRO-N.E.T.

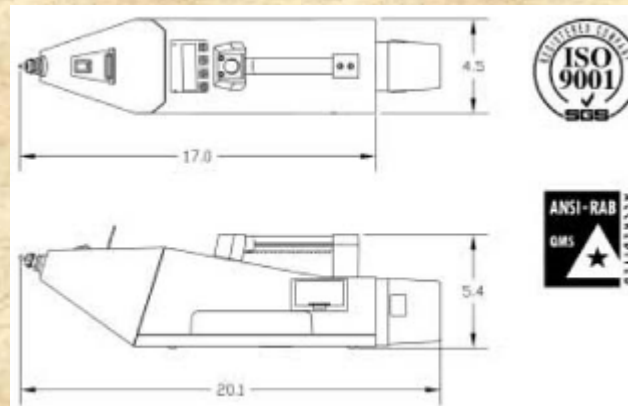
Manual Detection of explosives



TMP-E5000 - Portable Advanced Explosives Detector

The TMP-E3500 is the world's first and most recognized portable explosives trace detector that uses Luminol Chemiluminescence (Chemilumina). The TMP-E3500 is the only portable device capable of detecting the presence of all threat explosives, including ICAO taggants, military plastics and TATP. It also does not use any external carrier gas or radioactive source (unlike others).

If portability, quick detection and clear, accurate results are crucial, then this is the explosives detector needed. The TMP-E3500 offers extremely fast and stable detection with very high selectivity for explosives and immunity to humidity or contamination problems. The TMP-E3500 detects traces of particulates and vapors, allowing for noninvasive searches of luggage, mail, vehicles, documents and containers.



Operating the TMP-E3500

The TMP-E3500 is flexible and easy to operate, offering both vapor and particulate sampling without the use of an external carrier gas or radioactive source. Vapors are sampled directly via the sampling nozzle. Particulates are sampled by swiping a suspected object with a cotton glove or other means and transferring any traces to the unit. This dual capability enables users to select the most suitable method of sampling for the explosives of interest. The TMP-E3500 starts processing samples immediately and gives results in just seconds. All results are indicated on the LCD graphical and numerical display.

Fast and Proven:

The TMP-E3500 has proven to be capable of detecting plastic and high vapor pressure explosives rapidly—giving clear results you can trust. Luminol Chemiluminescence is an ASTM EPA standard method for atmospheric monitoring of nitrogen dioxide.

Sensitive and Selective:

The TMP-E3500 can detect minute traces (low nanogram level) of C-4, TNT, Dynamite, PETN, Semtex, EGDN, DMNB, RDX, ANFO, Amonium Nitrate, Urea Nitrate, Nitroglycerine and TATP, with low false alarm levels and few interferents. Immune to variations in humidity and environmental conditions.

Portable:

The TMP-E3500 is selfcontained, lightweight, less than 3 kg (6.6 lbs), and comes in a fully equipped, rugged carrying case—ready to use when and where needed.

No Radioactive Isotopes or Radioactivity

Easy to Use:

The TMP-E3500 is ready for operation within thirty seconds from turn on. When necessary, any minimal cleaning takes only a few seconds. The simple push of a button automatically activates the sampling and analysis mode. Results are displayed on an easy-to-read LCD making the TMP-E3500 ideal for all non-technical personnel. ICAO taggants and tagged plastic explosives.

Mini Explosive Agents Detector/Sniffer

the smallest (pocket size), the fastest, the lightest, the most sensitive, the most robust & reliable,
the easiest to operate, the most affordable
. . . explosive agents detector/sniffer

Sampling & Detection:

Semi-Selective Infra-Red Continuous Vapour Mode with instant reading
Particulate Mode using sampling strips with Infra-Red collection and instant reading
Colour display with graphic (bar-graph) and numeric output
Acoustic and Red-Flashing visual alarm
One-button operation
No "sampling - analysis" intervals required, instrument works in instant reading mode!
Internal flash-disk for tens thousands of measurements

Detection parameters:

Detects ALL the EXPLOSIVES incl. "home made" down to nanogram level
Excellent detection of all non-volatile explosives in Semi-
Selective IR Continuous Vapour Mode
Analysis time: about 1 second Extremely resistant to interfering chemicals and organic compounds
Excellent false alarm rate
Ready to work within 5-18 seconds after switch-on



Cleaning:

Typically within few seconds even after high exposure

Start-up / warm-up time:

Cold start: 5-18 seconds, in low ambient temperatures can take longer time

Physical:

Built-in WiFi module for full remote control/data download/factory service (optional)

The whole day operation for one battery charge

Easy exchangeable battery, can be supplied with two batteries (optional)

The most advanced military category LiPol battery cells for low weight, high capacity and long life

Robust belt holster for comfortable whole-day wearing (similar to gun holster)

Extremely robust & highly ergonomic case made of advanced carbon fibers plastics for high impact resistance and light weight

Designed & manufactured for heavy duty military use with highest level of reliability

"Falling water" resistant (IP42)

Heavy Duty carrying case for the instrument and all accessories

Operation:

Extremely user-friendly and easy operate - using only one button. First press: start-up, second press: measurement, third longer press: switch-off.

All operational parameters configurable from PC; Password protected.

PC connection: WiFi, USB 2.0, RS 232

Android mobile platform compatible via WiFi

Training:

NO special operator's training required, easy operation understandable to any operator without special qualification

Easy and simple training of expert/commander to set-up operational parameters via PC

Explosives Detection DEVICES (EDDs)

- With proper personnel training, EDD has proven its ability to reduce the loss of human life in multiple applications, eg, military/battlefields, police/law enforcement, airport screening - any volatile areas
- EDD patented, protected, exclusive technologies enable “instant” identification of microscopic traces of today’s most widely used explosive materials
- EDD is less expensive than competitive products and is available world-wide.
- EDD is highly portable - ideally suited for field applicability
- Multiple form factors are available: A wallet-sized disposable Device for covert and military operations is available. A vanity sized field case contains vials of the reagents for Law Enforcement and Bomb Squads.
- EDD does not require field calibration, power or peripheral devices.
- EDD is not dependent on availability of alternative explosive detection systems – however, EDD can be complemented by: sniffer dogs, X-rays, Ion Mobility Spectrometry (IMS), Mass Spectrometry, Field Ion Spectrometry (FIS), Thermo-Redox (TR) Detectors, Electron Capture Detectors (ECD), and Gas Chromatograph (GC) technologies
- Personnel training time is short cycle, i.e., 1-2 hours

EXPLOSIVE	REAGENT			
	1	2	3	4
TNT	---			
RDX		---	---	
PETN		---	---	
BLACK POWDER		---	---	
DYNAMITE			---	---
NC		---	---	
NG		---	---	
CE				
INORGANIC NITRATES		---		
RDX BASED PLASTIC EXPLOSIVES		---	---	

EDD was designed to provide a simple means of identifying explosives. Multiple form factors of EDD have been developed to address user requirements. The stand-alone, wallet-sized, compact and lightweight size of the Disposable Device with easy to follow graphic instructions make this an ideal tool for covert operations and law enforcement. The Field Device, with replaceable containers is deployable with bomb squads, border protection teams, security teams and airport security.

Early detection and identification of explosives allows for blast fragmentation containment for public protection and the capability to reduce loss of life. EDD is intended for the identification of explosives, detection of persons having handled explosives, the detection of surfaces contaminated by explosives, and for post-blast forensics.

- Small & Lightweight: Easy to deploy and transport in the field.
- Simple to Use: Can be used by unskilled personnel in a field setting.
- Low-Cost: Can deploy multiple Devices at lower cost per test than competitors.
- Colorimetric Detection: Prevent false positives & negatives.
- All Test Materials Included: No need for additional equipment.
- User Instructions Included: Simple tests that even a laymen can perform.
- Availability: World-wide distribution.



Explosives detector - CRO-P.E.T. & CRO-N.E.T.

Put today's most advanced, practical explosive detection power in your pocket.

IEDs (Improvised Explosive Devices) represent the top threat to civilian security worldwide. The ever-increasing availability of IEDs to terrorist organizations can allow them to bring down airplanes, blast buses and trains, destroy restaurants and shopping centers and inflict massive death and injury. An effective way to prevent such severe consequences is the early detection of explosives.

CRO products - Ideal Security Solutions

- Cost effective
- User friendly
- Completely safe
- Instant response
- Low level of detection (LOD)

CRO products can save lives when used by:

Transport Security - Airports / Airlines / Seaports / Train Stations / Bus terminals

Police & Law Enforcement Units

Military

FIF (First Intervention Forces)

Bomb Squads

Private companies, Banks, Mega-Stores



AIRPORTS DIVISION SOFTWARE

- PLATFORM ENTERPRISE
- SW MODULES

GIADA® PLATFORM ENTERPRISE

Genetic Intelligent Adaptive Analysis

It's a Video Knowledge Management® software platform.

GIADA® Platform extracts the meaning present within a video stream, produces operation dynamics rules that give a plurality of processes in order to identify the constructability systems rules of Intelligent Analysis scene.

GIADA® Platform is designed to automatically extract the meaning of extremely complex situations such behavior. All this is possible thanks to years of dedicated research and development to develop sophisticated genetic algorithms based on complex mathematical functions, which allow the system to be configured and improve their potential, in order to identify the abnormal situation and then determine the type.



- **Checking out baggage**
- **Objects abandonment**
- **Crossing**
- **Not allowed areas**
- **Smoke detection**
- **Access control**
- **Face recognition**
- **Baggage area control**
- **People aggregation**
- **Perimeter control**
- **check-in area control**
- **Airport outside areas control**
- **Fire prevention**

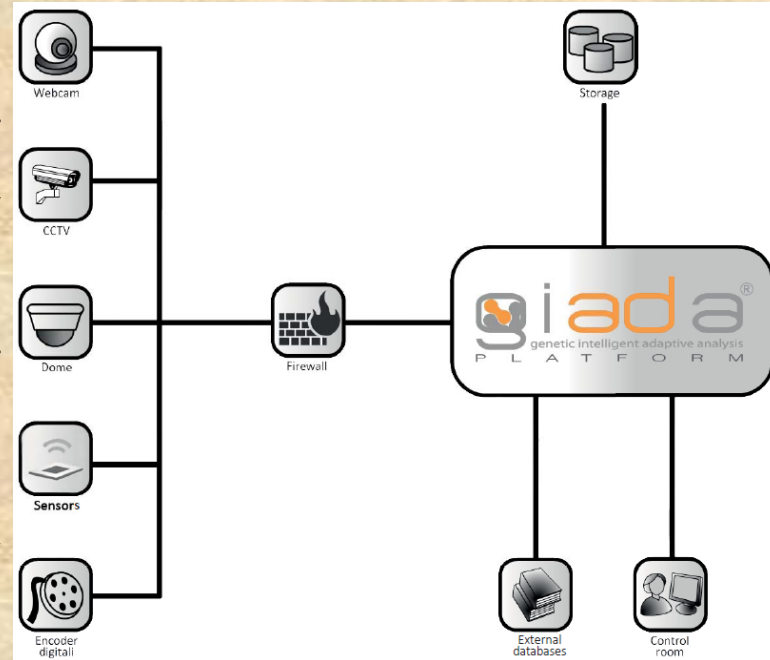
The cognitive part of GIADA® Platform is characterized by the following levels of knowledge:

- A descriptive level in which the recognized / perceived event is traced back to an abstract theoretical object;
- A methodological level where reside rules for its construction and / or simulation;
- A meta methodological level where reside the procedures for reliability operation controlling between the theoretical object, simulated by the methodological level and the event.

The uniqueness of the technology is in the high speed of the algorithm, or the ability to analyze a scene and to identify and extract key concepts within the movie / video / streaming through the frequency analysis of recurrences and the relationships between themselves respect to the meaning.

The GIADA® Platform may, in fact, use approximate reasoning forms, through probabilistic techniques or by making use of the so-called "fuzzy logic".

The genetic algorithms use and automatic learning are the GIADA® Platform heuristic method search. GIADA® Platform also has a "tracking" engine, based on extremely complex algorithms that allows to detect differences in a sequence of images, and then to extrapolate the event within a video stream and analyze the objects interaction in the scene.



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