

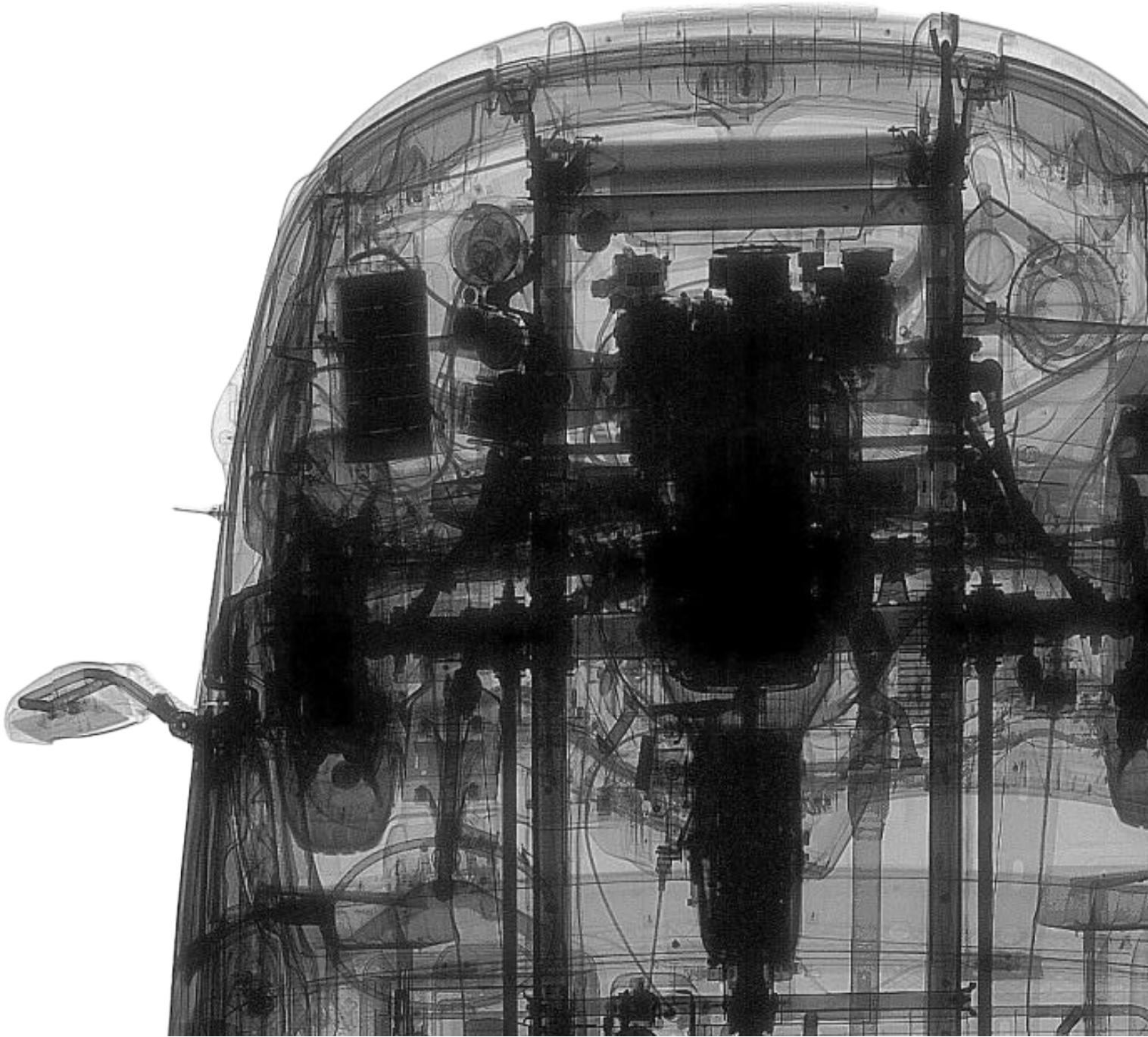


BORDER SECURITY

HOMELAND PROTECTION

AIRPORT & SEAPORT SECURITY

www.tudor-tech.ch



TUDOR SCAN OCV

PORTAL X-RAY SCANNER FOR OCCUPIED CARS AND VANS

OVERVIEW

The constant increase of terrorist activities calls for fast and reliable methods of screening vehicles. High-security facilities need high-tech equipment and efficient measures to address this new challenging environment.

Our response is a **safe and cost-effective scanner** that achieves top imaging performance with an extremely low radiation dose for the vehicle occupants.

The TUDOR SCAN OCV incorporates TUDOR SCAN TECH's proprietary technology that has received considerable international acclaim over the past years. Developed with a constant focus on high performance and unparalleled reliability, it can scan up to 400 vehicles per hour in search for contraband or threats such as weapons, improvised explosive devices or other forbidden items.

APPLICATIONS

Airports

Correctional facilities

Governmental buildings

Permanent and temporary checkpoints

Access points to high-risk urban areas

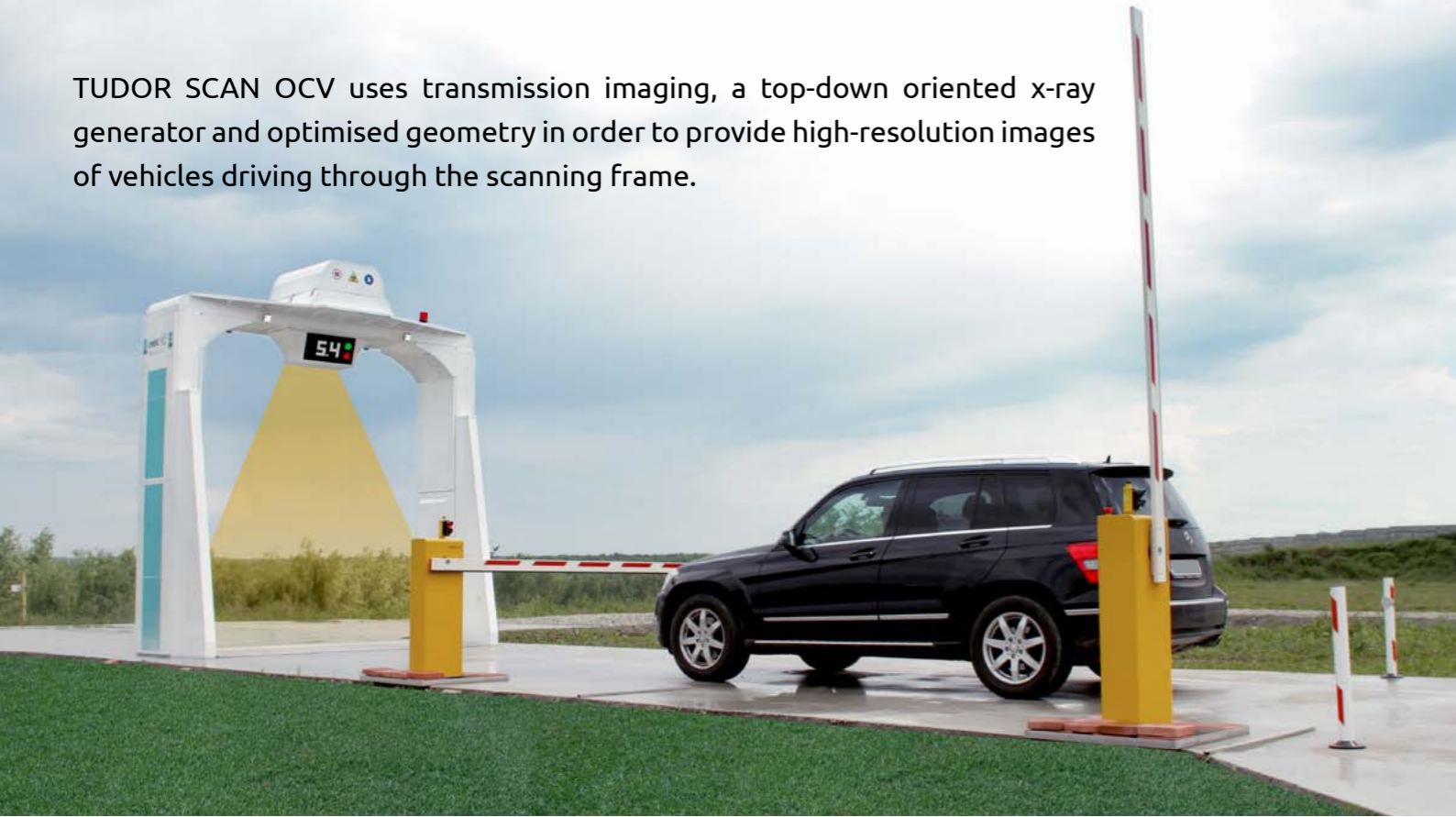
VIP security

Border crossings



FUNCTIONALITY & OPERATION

TUDOR SCAN OCV uses transmission imaging, a top-down oriented x-ray generator and optimised geometry in order to provide high-resolution images of vehicles driving through the scanning frame.



TUDOR SCAN OCV's automated traffic management system ensures maximum throughput and optimal image quality.



The automatic barriers and intuitive signaling are controlled by OCV's advanced computers.



SYSTEM COMPONENTS

1. Durable steel structure with specialized signaling
2. X-ray generator unit
3. TUDOR SCAN TECH proprietary ultra-thin high-resolution detector module
4. Protective elements against tamper attempts
5. Dedicated sensor unit: speed sensor for the scanned vehicle; license plate recognition camera; infrared projector
6. Night time flood illumination



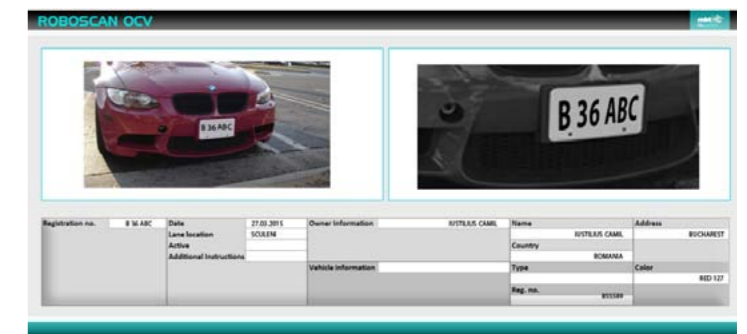
ADVANCED INTEGRATION OPTIONS

Effective supervision of scanning activities and prevention of corrupt practices has always been a serious concern for border control authorities.

All TUDOR SCAN scanners can be remotely supervised in real time from a central management location with or without knowledge of the operators and can even be operated from the supervisor console. In case of high-traffic situations, each scanner can be operated by up to five image analysts through its operator multiplexing feature that ensures scanned images are always sent to the operator that has the longest analysis time.

Further integration possibilities are available such as automatic interrogation of law enforcement databases – this allows the operator to have real-time extensive information about the vehicle: owner, registration date and place, registered color etc.

OCV identifies vehicles through automated licence plate recognition (LPR). During the LPR process, the system takes a snapshot of the vehicle in infrared and visible light and stores the resulting picture along with the extracted licence plate information.



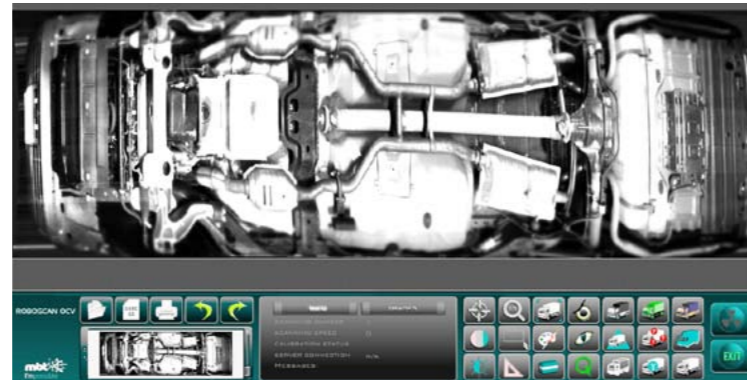
Based on the information provided by the system, the operator can check quickly if the presented information is in accordance with the reality and has an important tool that can help identify a potential threat like fake licence plates or a stolen vehicle that gets often used for ill intentions.

SOFTWARE

Additional functionality may be added through an under-vehicle inspection system that provides a high-resolution image of the vehicle's underside.

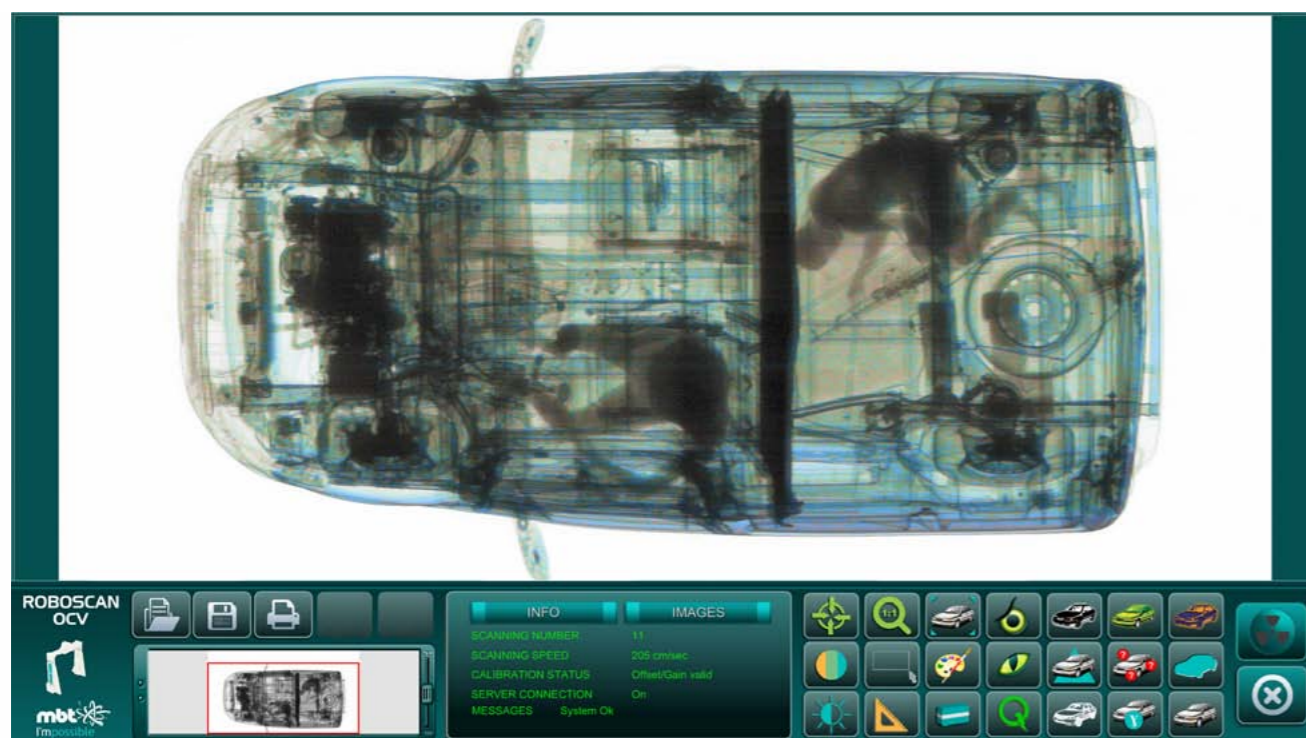
The operator may inspect the image individually in search for modifications made to the vehicle: for example, new welding points may suggest a double floor used to hide contraband, areas of the vehicle that are cleaner than the rest may also suggest those areas were used for hiding threats.

The software application allows parallel visualisation of the radiography and the underside image. This gives the operator the possibility to take easier decisions about the vehicle's status as cleared or suspect.



The dual-energy imaging provides organic / inorganic material separation for fast identification of threats such as explosives or other IED components. It also gives the operator an important tool to identify other dangerous items such as weapons or contraband.

An optional radiation detection system is available for detecting smuggling of forbidden material or for identification of dirty bombs. The proprietary ultra-slim detector unit can handle even the most extreme weights and is derived from TUDOR SCAN TECH's unique aircraft scanning systems.



TECHNICAL DATA

GENERAL SPECIFICATIONS

Tunnel dimensions:	3.2 m wide; 3.3 m height
Max. Vehicle Size:	2.6 m width x 2.9 m height
Scanning speed:	5 to 20 km/h
X-ray generator:	180 kV - 300 kV
X-ray beam orientation:	Vertically downward
X-ray dose for occupants:	As low as 0.03 µSv per scan
Exclusion area:	Approximately 10 x 10 m

IMAGING SPECIFICATIONS

Steel penetration:	60 mm
Wire resolution:	0.4 mm (AWG 26)
Spatial resolution:	2 mm
Material separation:	Yes, 4 material classes
Processing:	TUDOR SCAN TECH-designed solid-state hardware
Operator workstation:	Two-display, Full-HD professional monitors One monitor for process supervision (CCTV, traffic management, system status & diagnostics) One monitor for image analysis Multiple image analysis workstations (option)
Operating Software:	In-house developed ergonomic software interface Low-fatigue design of the graphic user interface Touchscreen operation Automatic archiving of scan data Proprietary image processing filters

HEALTH & SAFETY

Radiation safety:	Compliant to IAEA, WHO and EU guidelines Compliant to ANSI N43.17
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ENVIRONMENTAL SPECIFICATIONS

Operating temperature:	-20 °C to + 55°C
Humidity:	5% to 95%, non-condensing



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