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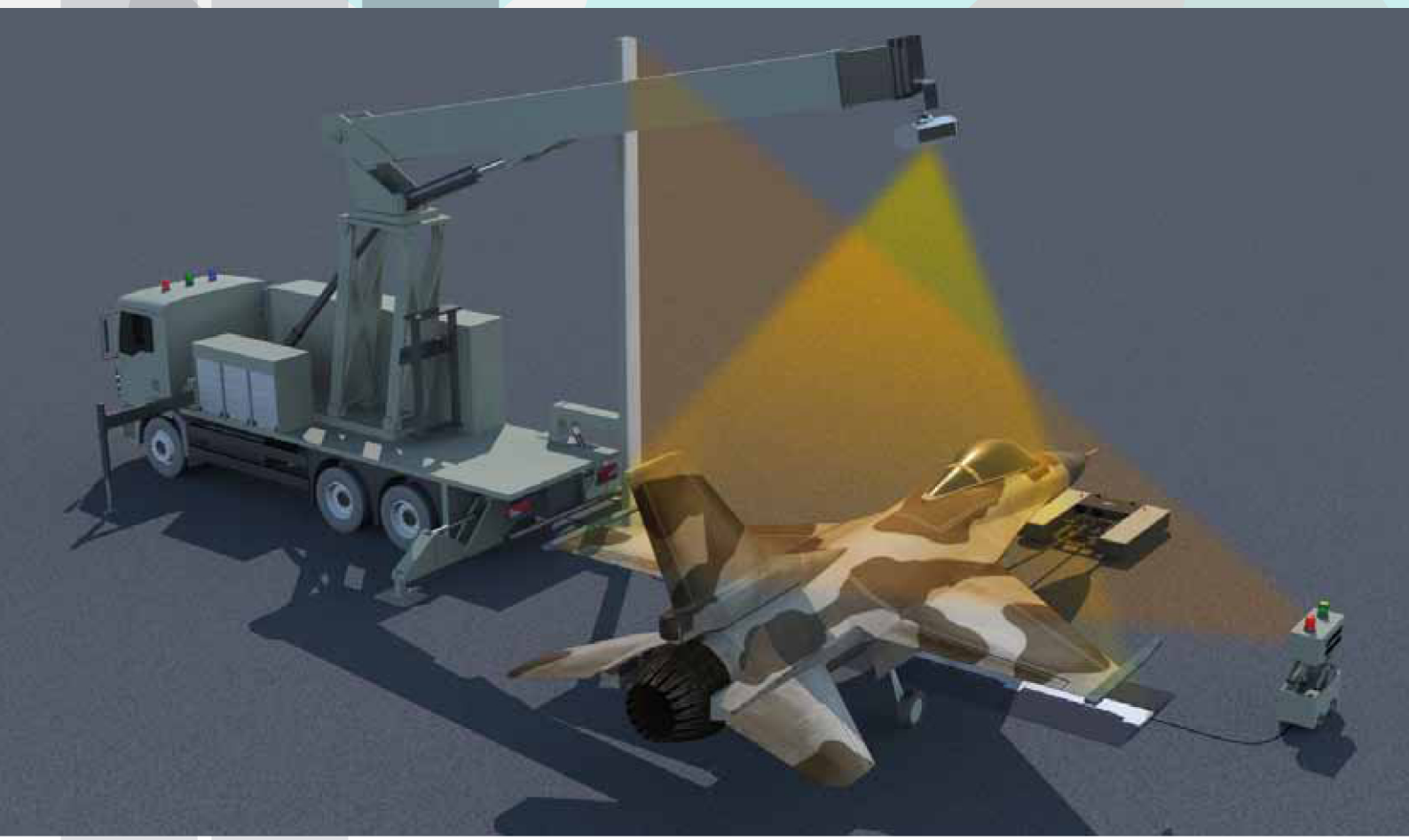


ROBOSCAN AERIA DVM

Dual View X-ray Military Aircraft Scanning System

ROBOSCAN AERIA DVM features and capabilities

Ensuring the safety and structural integrity of military aircraft is a critical issue, and is particularly challenging to manage in real time in the theater of operations. ROBOSCAN AERIA DVM solves this problem in a unique and powerful manner, offering the ability to thoroughly scan, inspect and assess any structural damage to helicopters or aircraft in minutes upon return from combat missions.

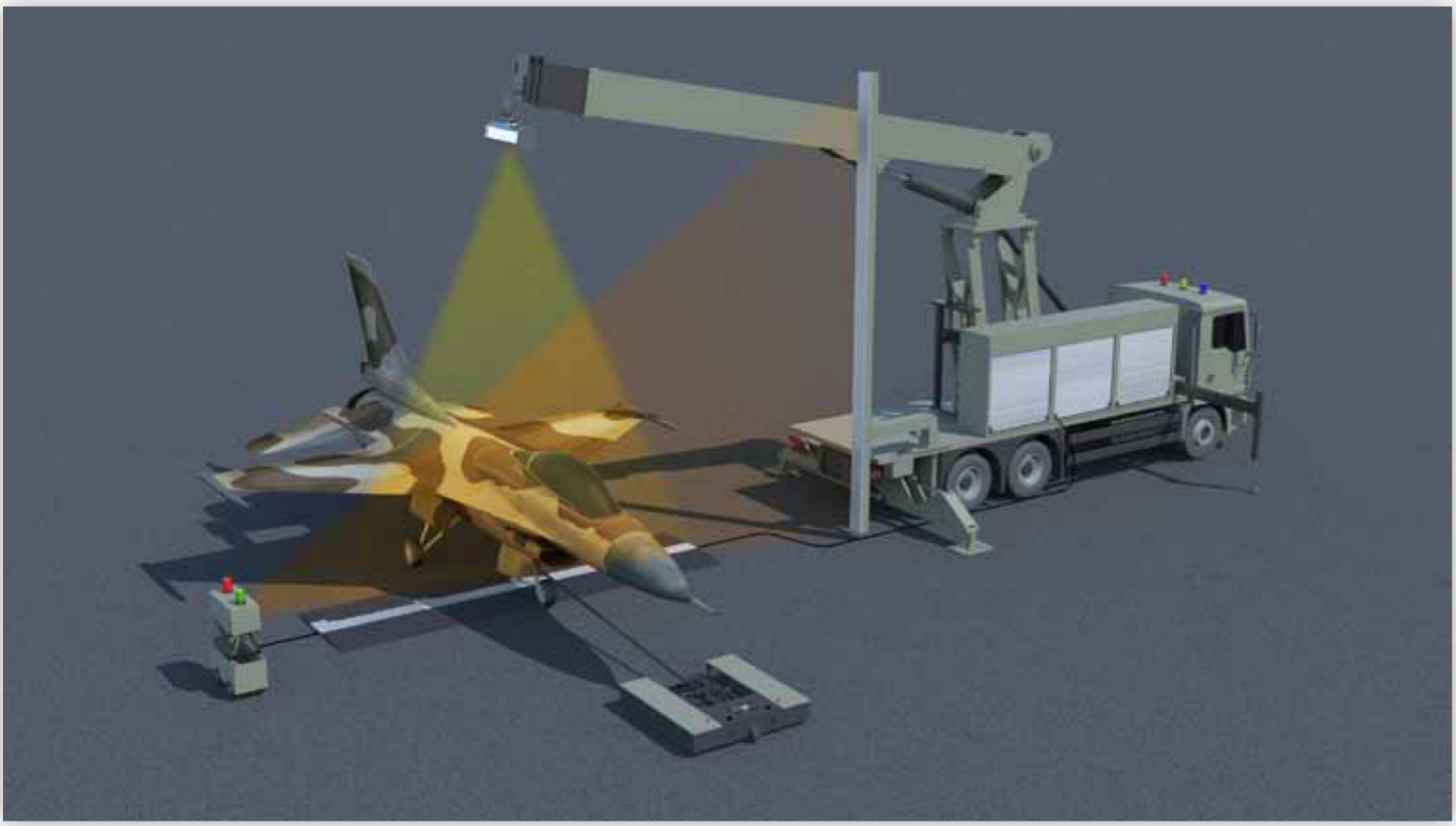
Derived from the award-winning ROBOSCAN AERIA Technology Platform, the DVM dual view imaging system allows operators to obtain simultaneous top and side views of the radiographed aircraft or helicopters in order to detect the damaging and potentially destructive effects of bullets or other objects penetrating the body of the flying equipment.

The dual view imaging system combined with dual energy material discrimination capability can reveal—down to a resolution of mere millimeters—damage to critical components such as electrical wiring, pipes, tubing, electronic boards, hydraulic/pneumatic componentry and other damage caused by bullets or other foreign objects penetrating the body of the aircraft.

The dual view imaging system enables a rapid and accurate assessment of the integrity of the aircraft regardless of the direction, orientation or position of any bullets or their trajectory.

The system is assembled on a military spec chassis, can be deployed in 15 minutes by a two-member crew and is capable of being operated even in the theater of operations. The entire scanning process is remotely controlled with minimal impact for routine airfield operations and with no human exposure to ionizing radiation.

ROBOSCAN AERIA DVM - Scanning Mode



Dual View X-ray Military Aircraft Scanning System

The main features of ROBOSCAN AERIA DVM

- Optimized for screening the entire aircraft, within mintues the vertical and horizontal screening frames generate clear radiographic images of the fuselage and wings with high resolution and unparalleled detail
- Conducting a rapid and comprehensive assessment and diagnosis, the ROBOSCAN AERIA DVM contributes significantly to (1) extending military equipment and readiness, (2) mitigating against the risk of human error in identifying hard-to-detect aircraft damage, and most importantly (3) saving lives by keeping aircraft having vital damage on the ground until repaired
- Highly mobile, able to be driven on public roads or off road from one site to another without additional infrastructure requirements and ready to scan within 15 minutes of arrival
- Fully autonomous—no local resources required for operation
- All weather operating capability in airport or theater operations environment
- Robotic operation, controlled by one process operator and one image analyst placed outside the exclusion area
- Anti-collision system prevents damage due to operator error
- High quality X-ray images based on state-of-the-art image processing algorithms

ROBOSCAN AERIA DVM - Transport Mode

- Fully automated screening process
- Radiation levels safe for operators and bystanders
- Megapixel resolution intelligent video surveillance
- Audio and video streaming and record in “black box” data recorder
- Built-in auto archiving facility and statistic reports capability; operators can create customized databases including images of scanned aircraft
- Data Integration in Command & Control Centers via wireless LAN, broadband internet or satellite connection (optional)
- Automatic Protection of the Exclusion Area (APEA) system

Operational concept

Main Components

- Mobile scanning unit with portable operation console and variable geometry source boom that integrates the X-ray generator for top view and vertical detector line for side view radiography, all foldable in transport mode

- Modular X-ray Detector Array with crossing ramps to be assembled horizontally on ground surface for top view radiography

- Aircraft tug mobile unit with remote process operator's console

- Safety and Security systems
  - Portable Automatic Protection of the Exclusion Area (APEA) system with video surveillance system
  - Optic and acoustic signals during the scanning process
  - Black box file recording all commands, responses, messages and events for post event investigation

- Second portable X-ray generator with variable height set-up for side view radiography

Configurations and Operating Sequences

- In transport mode (when being moved to a new site), the mobile scanning unit safely carries all ROBOSCAN AERIA DVM components in dedicated compartments

- In scanning mode, components are unloaded from the mobile unit and deployed in designated positions according to deployment instructions

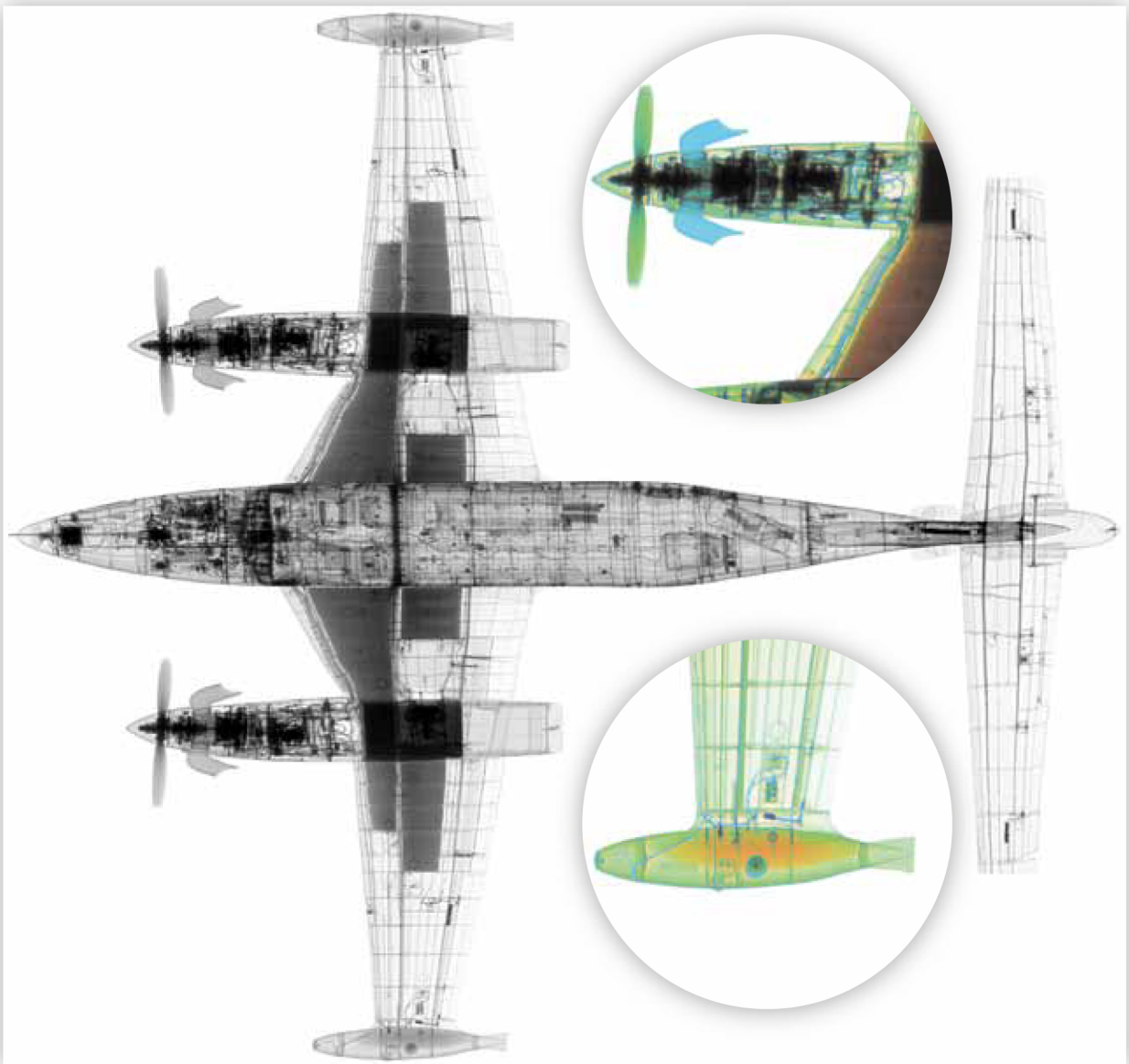
- Deployment sequence:
  - Drive mobile scanning unit to designated scanning location
  - Activate outriggers to stabilize the scanner's chassis
  - Unload all operational components and peripherals
  - Position X-ray generator boom at the desired angle and length depending on the size of aircraft to be scanned
  - Position vertical detector boom
  - Position detector modules and ramps on the running surface
  - Position second generator opposite the vertical detector boom at desired distance depending on size of the aircraft to be scanned
  - Position APEA subsystem

- Scanning sequence:
  - Ensure all people are removed from the aircraft/helicopter and surrounding area
  - Attach tug mobile unit to the aircraft
  - Tow aircraft through screening frames by using remote console of the tug unit
  - As aircraft is towed through the screening frames, 2 radiographic images are generated and displayed on the operator's interface
  - After scanning process is complete, the tug mobile unit is stopped and detached from the aircraft

Safety Features

- Compliant with Safety of Radiation Generators and Sealed Radioactive Sources, Safety Guide No. RS-G-1.10 / 2006 issued by IAEA
- Compliant with EURATOM Radiation Protection Directive 96/29
- Recommended exclusion area during scanning operation of 30m x 30m (approx. 98.4 ft x 98.4 ft)
  - Exclusion area perimeter supervised by portable APEA system that switches off X-ray generators automatically in case of entry into exclusion area during scanning procedure
- Megapixel Video Surveillance Subsystem
- Personal Radiation Monitor
- Optic and Acoustic Warning Signals during scanning process
- Radiation dose outside of exclusion area below prescribed limit (IAEA 115 / 1996)

Aircraft Radiography / Material discrimination details using dual energy detection



Performance Specifications

Dual view imaging system

Penetration in Aluminum (Al)	230mm (approximately 9.06 inch)
Wire Resolution	0.5mm Cu (in air)
Contrast Sensitivity	Better than 4%
Material Discrimination Capability	Four classes: organic, light minerals, medium density minerals, heavy minerals

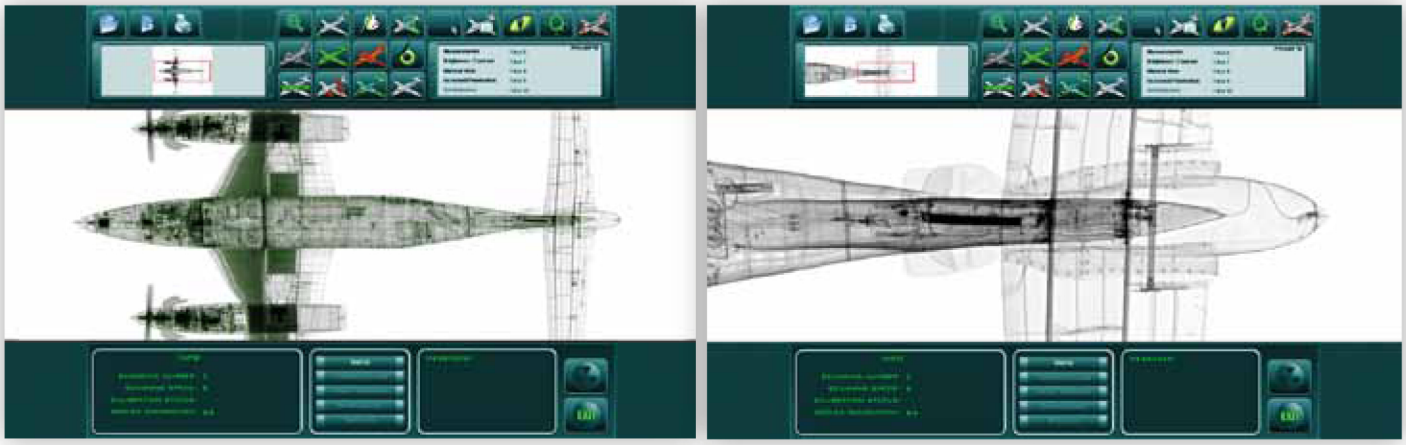
Operation and performances

Dual Scanning Frame	6.5m (approx. 21.3 ft) horizontal detector line by 10m (approx. 32.8 ft) height for top view scanning frame 6.5m (approx. 21.3 ft) vertical detector line by 8-15m (approx. 26.2-49.2 ft) width for side view scanning frame Other dimensions can be set by the operator according to the size of the aircraft to be scanned. Important note: Scanner can be configured to scan large civil aircraft up to 45m (approx.147.6 ft) wingspan and 15m (approximately 49.2 ft) tail height. In this case only top view radiography imagery will be generated.
Scan Mode	Aircraft tugged through the scanning frames by remote controlled movement
Scanning Speed	Variable 0.1 to 0.3 m/sec; Low speed of 0.1 m/sec provides best image quality. High speed of 0.3 m/sec provides highest throughput
Deployment/Stowing Time	Less than 15 minutes after arrival on site
Operating Personnel	Two-member crew: one process operator and one image analyst
Remote Operation	By encrypted wireless LAN, by internet connection or by satellite connection
Anti-collison Protection	Yes
Special Features	Data integration in Command and Control Center virtually anywhere depending on availability of on-site connectivity (optional)
Continuous Operation	24 / 7 / 365

Environment

Operation Temperature Range	-15°C to +45°C (+5°F to 113°F) standard (extended range by request)
Storage Temperature Range	-25°C to +65°C (-13°F to 149°F) standard
Relative Humidity	Max. 98% non-condensing

Operator Interface Screenshots:



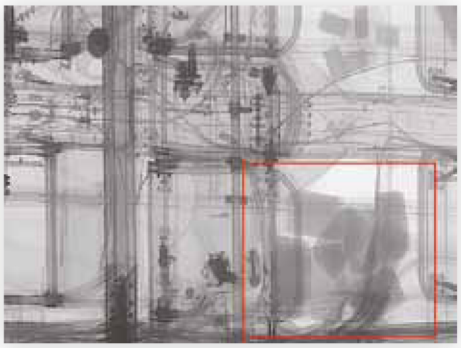
Dual View X-ray Military Aircraft Scanning System

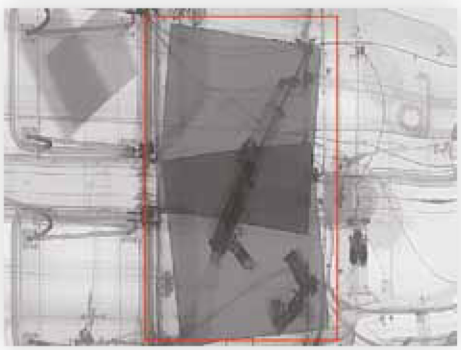
Aircraft Scanning

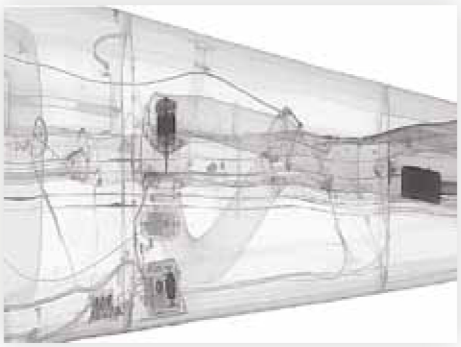
Side view X-ray Generator

Weapons (behind 12 mm of steel plates) and other suspect items concealed within aircraft fuselage

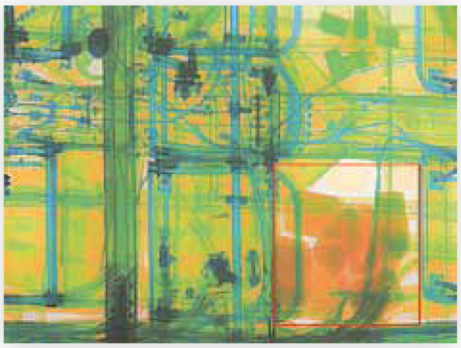
X-ray standard view:

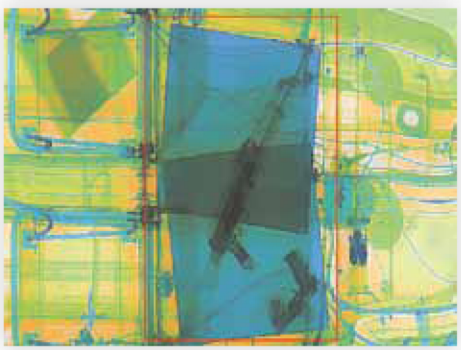


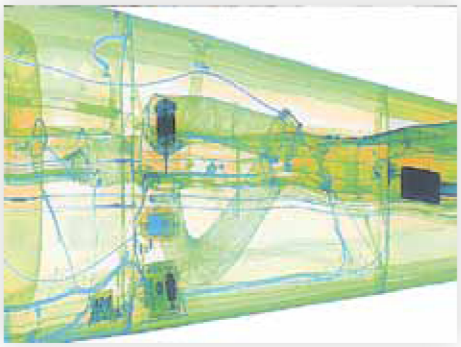




Dual-Energy X-ray material discrimination view:







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