

smiths detection

A photograph of an airport tarmac at dusk or dawn. In the foreground, a large pallet of cargo is wrapped in clear plastic and secured with a black net. The cargo is being loaded onto a white aircraft. The background shows other planes and airport infrastructure under a soft, golden light.

# EFFICIENT AIR CARGO SOLUTIONS



SPEED,  
RELIABILITY,  
EFFICIENCY



Whether forwarding high volumes of small parcels or handling large consolidated shipments, the air cargo industry demands fast, reliable and accurate security screening.



The latest air cargo screening technology combines the highest levels of security with effective automation and material handling system integration - meeting the challenges of increasing shipment volumes while complying with global regulatory standards. Critically, for a business driven by speed any technology must also significantly improve operational efficiency.

With over 40 years' experience, Smiths Detection understands air cargo's unique requirements, and provides everything from stand-alone Conventional X-ray Scanners (CXS) to fully automated, networked Explosives Detection Systems (EDS), the deployment of Artificial Intelligence (AI) for automatic object recognition and Explosives Trace Detection (ETD).

Our solutions, which routinely meet and exceed international legislative regulations for air cargo screening, bring together outstanding detection, high throughput, low false alarm rates and superior image quality. Expert and fully equipped service engineers are always at hand to optimise your equipment and take proactive measures to ensure essential uptime.

Specialist Smiths Detection teams work with customers to design and implement the most appropriate solutions, offering in-house management and support to handle the installation and commissioning - including interfacing screening equipment with material handling systems and other logistics applications.



# INDUSTRY LEADING PORTFOLIO

Whatever your cargo or regulatory requirements, Smiths Detection has the right solutions to meet your needs

X-ray is typically the most efficient option for air cargo security screening and there are two technologies that meet the current standards required by major global regulators – CXS with manual evaluation and EDS, which facilitates even faster turnover in integrated, high throughput environments such as express forwarding.

## CONVENTIONAL X-RAY SCREENING FOR BREAK-BULK CARGO

Our extensive CXS range offers a wide choice of scanners specifically designed to screen small, break bulk cargo or large palletised consignments. Many feature dual-view technology that accelerates inspection of tightly packed items by providing both horizontal and vertical views. All our solutions deliver a high level of security combined with excellent reliability.

CXS scanners for break bulk cargo are available in several different tunnel sizes and can be fully integrated into material handling lines to avoid manual loading and unloading. They are ideal for screening a mix of shapes and sizes as well as designed with a small footprint to take up less valuable floor space.

### HI-SCAN 100100V-2is



Featuring a high-speed raised conveyor belt, the dual-view scanner provides high-quality images of screened objects of different sized parcels. Additionally, an updated model meeting the new 0.5 m/s belt specifications is available.

 1,000 x 1,000mm / 39.4 x 39.4in

 0.2, 0.5 m/s

### HI-SCAN 100100T-2is



Featuring a low conveyor belt, this dual-view X-ray system is designed for screening oversized bulky freight.

 1,000 x 1,000mm / 39.4 x 39.4in

 0.2 m/s

## CONVENTIONAL SCREENING FOR CONSOLIDATED, PALLETISED GOODS

We also offer scanners aimed solely at the inspection of large, consolidated or palletised goods. Our most powerful option, the HI-SCAN 180180-2is pro is capable of screening LD3 containers

and features two 300kV X-ray generators for penetrating 75mm steel, reducing time spent on break down and re-inspection and ensuring a fast and efficient screening process.

### HI-SCAN 145180-2is pro



The innovative dual-view 200kV air cargo screening system meets the demand for fast turnaround, high levels of security and an attractive total cost of ownership (TCO).

 1,450 x 1,800mm / 57.1 x 70.9in

 0.24 m/s

### HI-SCAN 180180-2is pro



This advanced dual-view 300kV X-ray cargo scanner designed for the inspection of large scale consolidated and palletised goods provides excellent steel penetration.

 1,790 x 1,700mm / 70.5 x 66.9in

 0.24 m/s



Max tunnel size



Belt speed



# STREAMLINING THE PROCESS

The latest technology for screening parcels is in-line, EDS with Computed Tomography (CT), which can be incorporated into advanced, fully automatic material handling lines. This new generation, ECAC EDS Standard 3 and 3.1 approved equipment, offers highly accurate identification of suspicious substances and quick software upgrades to detect the yet unknown threats and contraband of tomorrow. Contents are examined from every angle, generating 3D images with precise data which only require operator analysis when the system flags up something suspicious. This means that fewer operators can deal with growing volumes.

These high speed, fully automated systems have the potential to reach throughputs of up to 2,500 items per hour, increasing productivity and lowering the screening cost-per-item. The concept of operation may be adapted specifically for air cargo, including, for example, curtain-less radiation shielding which facilitates smooth movement through the scanner for the lightest of packages.

# IN-LINE, AUTOMATIC SCREENING / EXPLOSIVES DETECTION SYSTEMS

## HI-SCAN 10080 XCT



This next generation high-speed, explosives detection system (EDS) features a dual-view dual-energy X-ray line scanner with full 3D volumetric computed tomography (CT) imaging and reconstruction.

- 1,000 x 800mm / 39.4 x 31.5in
- 0.5 m/s

## CTX 9800 DSi



This high-speed explosives detection system with full 3D volumetric computed tomography (CT) imaging allows for efficient security decisions on cargo packages.

- objects up to 2.5m / 98.4in in length
- 0.2, 0.3, 0.5 m/s

## HI-SCAN 10080 EDX-2is



This automatic explosives detection system uses dual-view X-ray for an improved the evaluation process.

- 1,060 x 800mm / 42.2 x 31.9in
- 0.5 m/s

## CTX 5800



This compact explosives detection system (EDS) with full 3D volumetric computed tomography (CT) imaging automatically identifies threats in cargo packages.

- max width at conveyor edge: 750mm / 20.5in
- max height at max width: 408mm / 16in
- max height at conveyor center: 625mm / 24.6in
- 0.14 m/s

## EXPLOSIVES TRACE DETECTION

### IONSCAN 600



- Detects/identifies explosives & narcotics in less than 8 seconds
- Non-radioactive IMS source
- Small, lightweight and portable



# CREATING A NETWORK

Our networking solutions bring even further efficiency to in-line EDS by supporting an increase in security, reduction in costs and resource optimisation. Images are delivered to analysts in real-time via a dependable network with minimal downtime. Remote screening at a central location can also be introduced to all types of CXS scanners – even images from several systems screening large scale consignments can be handled by one operator. Smiths Detection is leading the way in connecting several screening lines, distribution hubs and airports both nationally and internationally.

Another key benefit of a network is the ability to create a system management function. This includes easy monitoring of the health of your solutions and gathering the data and insights needed for general administration and resource allocation. These functions can be accessed via multiple local workstations or a web-based platform.







# AT YOUR SERVICE - ANYWHERE AND ANYTIME

Proactive, preventative maintenance keeps equipment continuously operating in peak condition

Our global team of field service technicians and engineers ensures you receive a fast response and resolution. We offer flexible and scalable service packages and extended warranties. Specifying contracts and labour upfront enables you to control your labour and parts costs by driving reliability and predictability.

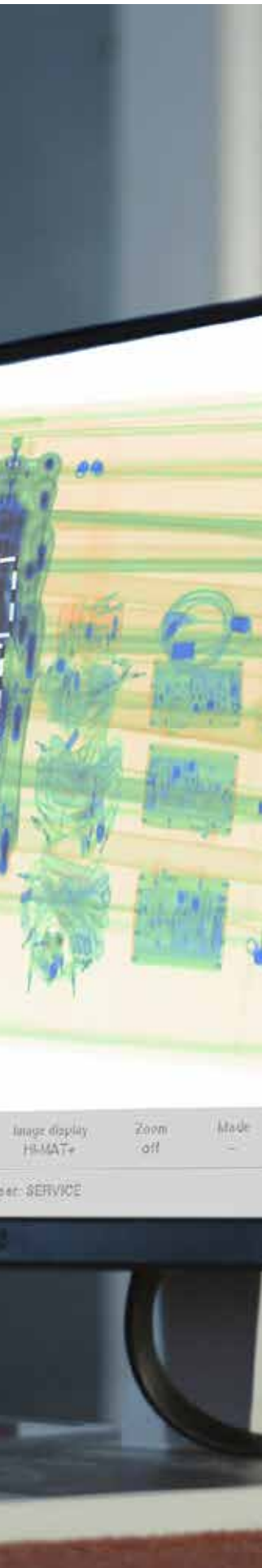
Smiths Detection's global Forward Stock Locations (FSL) speed up the movement of consumables, replacement parts and other supplies. A skilled team plus FSL add up to fast, reliable local service and minimal downtime which in turn, saves time and money.

In the cargo industry, where turnaround is critical to success, downtime is ill afforded. Therefore early warning of any component parts under continuous use can, when interpreted correctly with algorithms and deep learning, deliver a predictive and thus preventative maintenance regime with automatic ticketing, parts ordering and scheduling of pre-emptive repairs during scheduled downtime. Carrying out maintenance when your machine is scheduled to be off line in any case, means little to no impact to your operations.

# COMMITTED TO EVOLVING TECHNOLOGY

Maintaining cost effective operations,  
the highest levels of security and peak  
performance into the future

Smiths Detection solutions are designed to adapt to changing requirements, new security threats and developments in technology. Built-in upgrade paths mean equipment can be updated on-site. Future proofing your security systems.




A considerable and on-going investment in R&D ensures we can bring you the latest advancements in screening. Such as iCMORE, our automatic lithium battery detection algorithm, introduced to support IATA recommendations on shipping Dangerous Goods. It was developed to tackle the very real threat posed by undeclared lithium batteries which have the potential to ignite whilst airborne. The range of iCMORE object recognition algorithms already has the ability to identify other dangerous, prohibited or contraband goods and substances, such as flammable liquids and solids, and will continue to grow.

Progress in biometrics, artificial intelligence and integrated screening technology are driving some very exciting developments

in risk-based screening across several aviation sectors and air cargo is no exception. A degree of differentiation is already applied in air cargo to meet the additional measures required on some flights carrying consolidated shipments.

With RBS, each shipper/shipment triggers an appropriate level of screening for all consignments based on a pre-defined risk assessment. As captured information can be used multiple times across the network to benefit stakeholders at departure, transit and arrival airports, there is also an application here for object recognition algorithms in alerting local authorities to contraband and other prohibited items.





Smiths Detection, part of Smiths Group, is a global leader in threat detection and screening technologies for aviation, ports and borders, defence and urban security. Our experience and history across more than 40 years at the frontline, enables us to deliver the solutions needed to protect society from the threat and illegal passage of explosives, prohibited weapons, contraband, toxic chemicals and narcotics. Our goal is simple – to provide security, peace of mind and freedom of movement upon which the world depends.

## CONTACT US

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