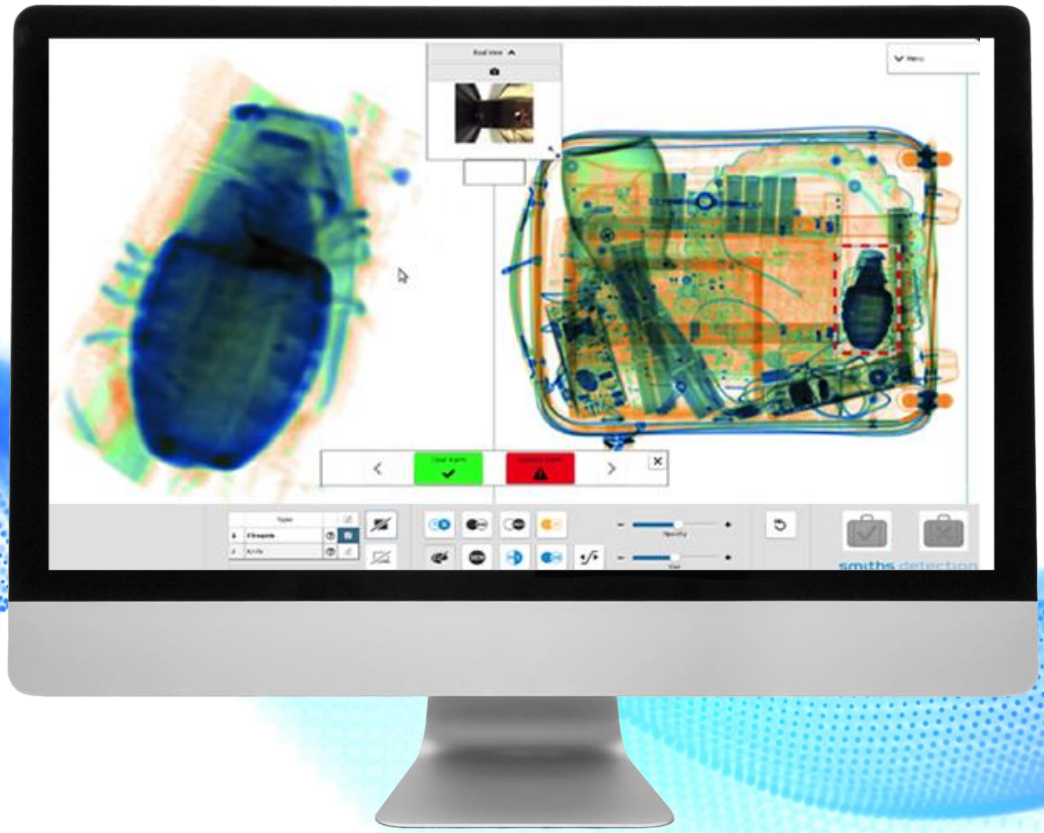
smiths detection

AUTOMATED PROHIBITED ITEMS DETECTION AT AIRPORT CHECKPOINTS



iCMORE APIDS uses artificial intelligence-based algorithms to automatically identify prohibited objects at airport security checkpoints. Detecting firearms, sharps (knives & scissors), axes, grenades, blasting caps, ammunition and blunt objects, iCMORE APIDS was specifically developed to identify objects on the aviation prohibited items list, but its advantages can bring benefit to any security checkpoint.

iCMORE APIDS delivers a high probability of detection and low false alarm rate - improving security, whilst also increasing efficiency and throughput. Its detection capabilities provide invaluable support to image analysts in decision making and are particularly helpful for less experienced operators.

iCMORE APIDS is intuitive and easy to use, meaning little to no training is required. Additionally, it reduces the risk of human errors, as AI algorithms do not tire and are impartial.

Powered by Smiths Detection's huge library of images and propriety AI-based automatic threat recognition technology, iCMORE APIDS results in accurate, reliable and powerful detection. The access to proprietary raw data enables real-time detection with no need to stop the conveyor.

KEY FEATURES

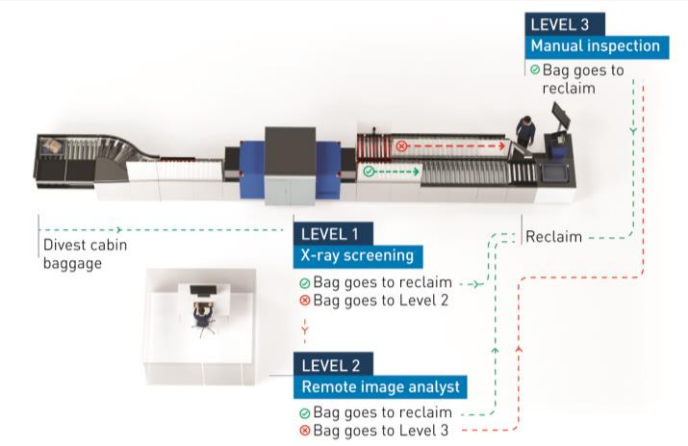
- Accurate and reliable real-time detection
- Requires minimum training
- Increases operational efficiency and security
- Invaluable support for security operators
- Reduces and improves resource OPEX planning
- Future proofs screening systems
- Allows airports to move towards alarm only viewing

INCREASED AUTOMATION ENABLING ALARM-ONLY VIEWING

Intelligent object recognition algorithms can lead to a more automated screening process. Especially when combined with automatic explosives detection and risk-based screening approaches, they could enable alarm-only viewing of X-ray images, a concept which has been in use in hold baggage screening at airports for years. This will soon be a reality for checkpoint screening as well, following the introduction of the new ECAC standards for the certification of these APIDS (Automated Prohibited Items Detection Systems) algorithms.

The main benefit of alarm-only viewing is that the number of images that have to be viewed will be reduced considerably; and when combined with automated lanes and centralised screening, alarm-only viewing will improve resource utilization.

Such advancements are particularly important considering the severe staff shortages and increasing passenger numbers that airports are facing. iCMORE APIDS will be a key enabler for increased operational efficiency and throughput while also reducing OPEX and facilitating resource planning.



Alarm-only viewing concept

ROUTE TOWARDS ALARM-ONLY VIEWING

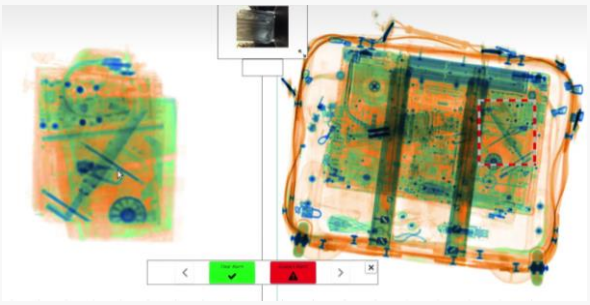
The regulatory framework will include combinations of APIDS and EDS CB standards to allow for different degrees of automation. There will be three APIDS standards, with detection requirements increasing and percentage of mandatory random alarms decreasing from APIDS Standard 1 to APIDS Standard 3.

APIDS STANDARDS

The regulatory framework for alarm-only viewing will include combinations of APIDS and EDS CB standards to allow for different degrees of automation.

iCMORE APIDS will first be available as a certified algorithm on the CT-based HI-SCAN 6040 CTiX, both, as an option on new systems and as an on-site upgrade kit. CT will be the most efficient, flexible and future-proof X-ray technology to handle alarm-only viewing.

Upgrade options will also be available for other Explosive Detection Systems (EDS) in the future. If used in combination with APIDS algorithms, they may well be certified for alarm-only viewing. However, regulations will still require operators to view a percentage of images, so the benefits will be less significant.



Automatic detection of a knife using iCMORE Prohibited Items on a HI-SCAN 6040 CTiX

LEADER IN DIGITAL INNOVATION

iCMORE APIDS is part of the iCMORE family of smart and adaptable object recognition algorithms offering automatic detection of an ever-expanding list of dangerous, prohibited and contraband goods.

Smiths Detection has over 30 years' experience in developing automatic threat detection technology, based on AI and non-AI algorithms. Deep learning is fundamental to AI and Smiths Detection took this approach in developing iCMORE APIDS - collaborating with customers and security authorities to build a huge library of images from which the algorithm could 'learn'.

This results in accurate, reliable and powerful detection capabilities.