

# XRD 3500™

EXPLOSIVES DETECTION DOWN TO THE MOLECULAR SIGNATURE



The XRD 3500™ system is a further development of the XES 3000™ explosives detection system (EDS) based on X-ray diffraction (XRD) technology, which identifies material based on its molecular composition.

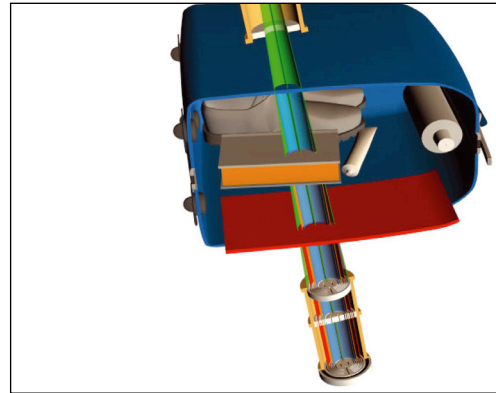
The XRD 3500 system also offers highly focused screening capability for areas in bags identified as possible threats by previous screening equipment. The XRD 3500 system uses alarm location data, acquired from bag images collected by an EDS positioned earlier in the Baggage Handling System (BHS), to focus on a subsection of the bag. This ability to focus on a limited threat area greatly increases the throughput of the XRD system. The XRD 3500 system is designed to resolve alarms from other explosives detection systems without depending on operators and other time-consuming procedures. This can result in a significant increase in overall detection rates and reduced processing time for passenger baggage, while significantly reducing operating costs.

## Benefits

- Unsurpassed X-ray based detection increases overall detection rates
- Fulfills EU standard 3 requirements for explosives detection systems
- No human interference reduces the utilization of operators
- Improves the resolution of suspect items
- Reduces overall operating costs
- Provides customizable, dynamic threat libraries based on customer requirements
- Minimizes the number of bags that require reconciliation
- Application for drug inspection available

X-ray diffraction patterns determine the crystal structures of materials. As the only XRD supplier, Morpho Detection uses this technology in the XRD 3500 system to discriminate explosives and drugs from innocuous materials in passenger luggage.

As a non-imaging technology, XRD uses these diffraction patterns as a virtual “fingerprint” for the identification of a broad variety of explosives and drugs.

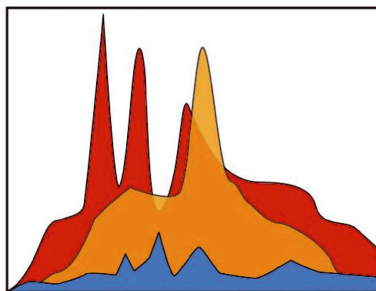


## UNIQUE TECHNOLOGY

### Unsurpassed X-ray Based Detection – Lowest False Alarm Rates

With its full automation and unsurpassed detection rates, the XRD 3500 system distinctively identifies substances and reduces the number of bags requiring reconciliation to a minimum. The use of patented cone beam geometry for inspection enables the XRD 3500 system to inspect suspect bags over its full surface and in depth.

When the bag has been penetrated with radiation, the individual scatter spectra are compared with the spectra of target substances from an extensive library. The library can be extended to include new explosives, narcotics, or other substances of interest; even homemade explosives and liquids can be identified.



Non-hazardous Material

Non-hazardous Material

Semtex (military explosive)

Comparison of Diffraction Spectra

### Advanced User Interface

The remote management work station (MWS) includes a variety of software tools, which display inspection results, viewing statistics, and error handling. The MWS also serves as a monitoring tool for administrators – enabling them to supervise the status of a deployed system.

### Certification

The XRD 3500 system is part of the second generation of XRD systems developed by Morpho Detection, Inc. The previous model, XES 3000, was the first system not based on CT technology to receive TSL certification.

The XRD 3500 system is the first system worldwide to fulfill EU standard 3 requirements for explosives detection systems, in compliance with the EU directive 1448/2006.

## EXPANDING YOUR AIRPORT'S CAPABILITY

### System of Systems

“System of Systems” is the combination of Morpho Detection’s Computed Tomography (CT)-based CTX 9000/9400 DSi EDS with its XRD-based XRD 3500 EDS. This integration of technologies provides airport security systems with an explosives material screening solution that reaches the highest possible level of checked baggage security using practical, functional and operational procedures, while respecting passenger time and privacy rights.

This combination of systems lays the foundation for the highest detection and the lowest false alarms rates. Furthermore, the System of Systems can help reduce airport operating costs by resolving nearly all CT alarms, therefore reducing the need for manual inspections to an unprecedented minimum.

### Operator-based Registration

In a multi-level baggage inspection process concept, the XRD 3500 system usually operates as a Level 3 system—bags which could not be defined as innocuous by a previous screening step are conveyed to the XRD system.

In a standalone configuration, the entire suitcase is inspected (full scan mode).