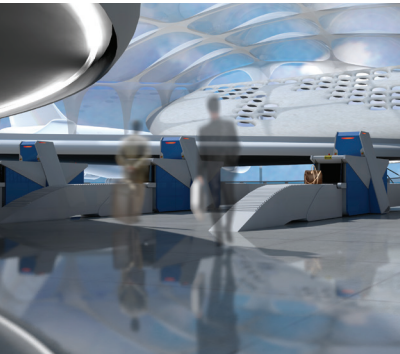
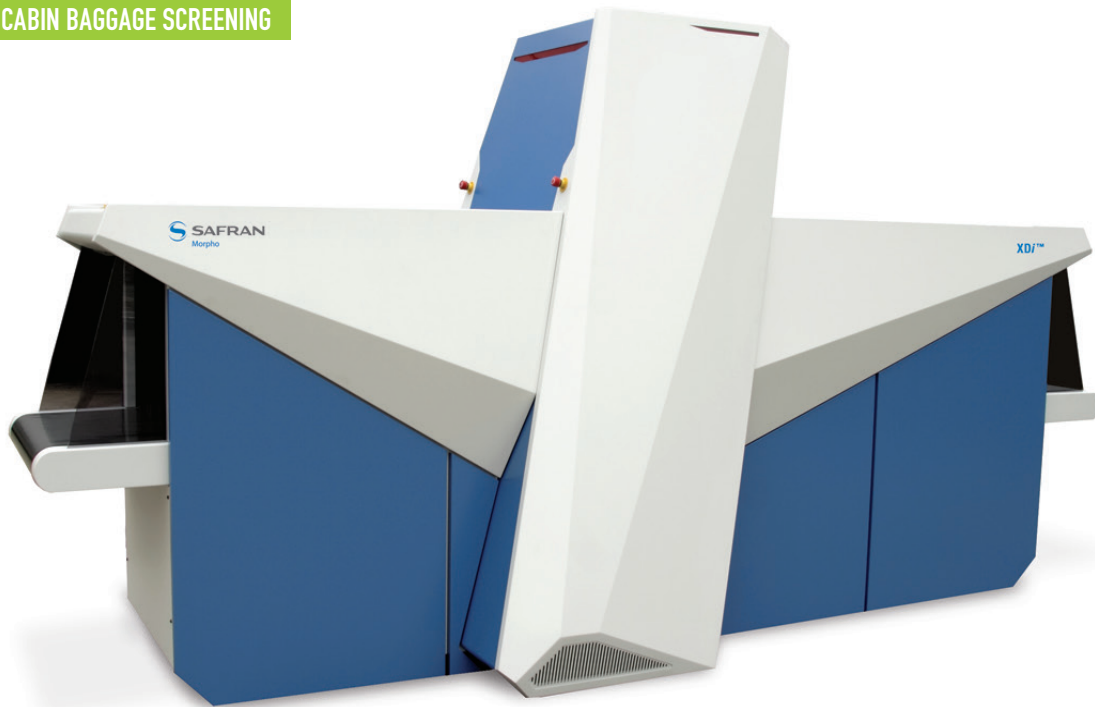


XDi™

THE ULTIMATE AUTOMATIC EXPLOSIVES DETECTION SYSTEM

FOR FUTURE CABIN BAGGAGE SCREENING



The XDi™ X-ray Diffraction (XRD)-based imaging system can simultaneously detect solid explosives and multiple liquid explosive threats in containers and inside bags, allowing both liquids and heavy electronics like laptops and tablets to remain inside cabin baggage so passengers do not have to remove anything for screening. By combining high detection rates with extremely low false alarm rates, XDi can help enhance the passenger experience by reducing checkpoint queue times.

Benefits

- Can automatically detect threats in cabin baggage:
 - Multiple liquid explosive threats in containers and inside bags
 - Solid explosives inside bags
 - Narcotics and counterfeit pharmaceuticals (with optional software)
- Allows liquids and heavy electronics like laptops and tablets to remain inside bags for screening — passengers do not have to remove liquids and electronic devices from carry-on items
- Streamlines checkpoint process and enhances passenger satisfaction
- Extremely low false alarm rate
- Designed to perform according to ECAC C3 requirements



Morpho Detection's XDi X-ray Diffraction (XRD)-based imaging system answers the need for automatic explosives detection at the checkpoint.

A Type D+ system, XDi is designed to automatically exceed current security standards by using Morpho Detection's innovative XRD technology to define the molecular structure of scanned baggage contents.

FAR-REACHING SOLUTION

Aviation checkpoint technology innovation and adoption will continue to be shaped by many factors such as evolving terrorism threats, governmental mandates and public debate. As technology continues to develop, it is critical regulators and security operators seek far-reaching solutions that will meet multiple objectives, including:

- Maintain or increase levels of detection
- Streamline operations
- Minimize operational costs

Morpho Detection's XDi X-ray Diffraction-based imaging system has the potential to accomplish all three of these goals, first in Europe and later, with regulatory acceptance, in the U.S. and beyond.

Following the conclusion of Morpho Detection's technical evaluations and laboratory demonstrations in 2012 and 2013, XDi prototypes are available for field trials, regulatory testing and advanced airport evaluation in 2014 and 2015, ahead of a planned European aviation checkpoint pilot in 2016.

SYSTEM FEATURES

- Automatically screens multiple liquid containers inside bags without requiring removal for explosives detection
- Advanced cabin baggage screening of solid, sheet and homemade explosives
- Detects and clearly identifies alarmed substances
- Simple software upgrades for detection of narcotics or counterfeit pharmaceuticals without additional hardware
- Automated explosives detection with high resolution X-ray images for operator on-screen resolution of contraband and other threats
- Networkable for control from checkpoint-wide central station or airport operation control center
- Remote workstation for operational efficiency

HOW IT WORKS

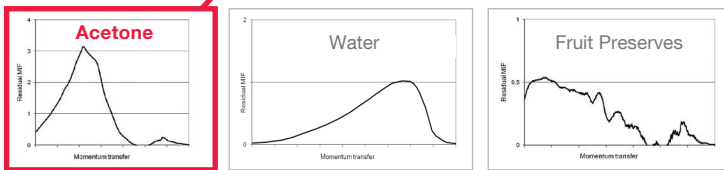
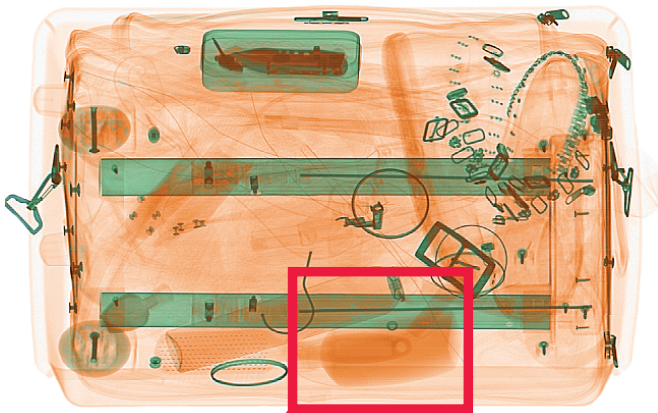
In contrast to conventional checkpoint technologies, which merely estimate the density of objects and require liquids to be removed from carry-on items for proper analysis and identification, X-ray Diffraction identifies scanned substances precisely while allowing liquids to remain inside scanned bags and is extremely effective in detecting both liquid and solid explosives.

XRD distinguishes between compounds by using radial distribution functions and molecular interference function algorithms to identify discrete molecular signatures in liquids. Spectral XRD allows a much clearer differentiation between substances than conventional transmission radiography.

XDi's pairing of XRD with high quality X-ray to generate bag images results in an automated system designed to equal the image quality and outperform the detection and identification capabilities of incumbent dual or multi-view technologies.

Liquid Explosive Threat Detection Method Classifications

Classification	Description
TYPE A	Detection of liquid explosive threats in unsealed containers
TYPE B	Detection of liquid explosive threats in sealed containers
TYPE C	Automatic classification of multiple liquid explosive threats when out of carry-on bags and in a separate tray for screening (in combination with a conventional X-ray system)
TYPE D	Automated detection of multiple liquid explosive threats when in containers and inside bags
TYPE D+	Same as Type D, plus additional allowance for passengers to leave heavy electronics like laptops and tablets inside bags for screening



XDi can easily differentiate between dangerous substances such as acetone and permitted liquids such as soft drinks and water. When possible threats are identified, distinctive result information is provided with an automated and easily recognizable alert for the operator of the checkpoint system.

CUSTOMIZED INNOVATION

Morpho provides modular checkpoint solutions customized to the individual needs of each airport environment. Delivering enhanced security and performance, the XDi Type D+ system can revolutionize checkpoint operations by reducing the number of lanes while maintaining current throughput.

KEY MISSIONS, KEY TECHNOLOGIES, KEY TALENTS

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