X-Ray Tutor (XRT) is the only training system on the market designed on the basis of scientific studies which takes into account the complex brain processes underlying the perception of visual information.

The effectiveness of the system has been proven in several studies, showing substantial increases in detection performance.

Due to the customizable adaptive level system, every user is presented images tailored to his/her individual knowledge and skills. This ensures that the user is optimally challenged by the presented images and maximizes his/her motivation to achieve the next level.

XRT is available for different fields of operation, such as Cabin Baggage Screening, Cargo Screening, etc.

Each library contains high-quality X-ray images of several hundred prohibited objects in various rotations and several thousand containers (e.g. bags, parcels - depending on the field of operation).
MERGING ALGORITHM

Thanks to the built-in merging algorithm, XRT is able to automatically generate unique bag-to-threat item combinations on the fly which reduces the possibility that a particular bag/threat item combination will be repeated during the training. The combinations are adapted to the individual level of the user. Up to three threat items per bag can be configured.

RESPONSE BUTTONS

We have added a feature to train the appropriate behavior in case the security officer identifies a prohibited item in the bag. In addition to marking the object, the security officer has to decide which action to take depending on the threat item. The specific actions can be defined by the customer to meet the requirements of national regulations and/or internal procedures.

MANAGEMENT BY OBJECTIVES

The management by objectives allows the administrator to set training goals. This function enables to keep track of the users’ training progress and provides a reference and motivational tool to ensure that the training requirements are met.

ADMINISTRATION AND REPORTING FUNCTIONS

The extensive administration functions help you to easily monitor and manage users and their profiles. The detailed reporting functions provide you with overviews of each user’s training behavior and results.

WEB-BASED APPLICATION

The software is built using the Microsoft Silverlight Framework and can be used with nearly every computer with Internet Explorer (see system requirements). It can be hosted on one of our encrypted servers. This makes the training very flexible and location-independent, while saving on additional IT infrastructure.

DETAILED LEVEL FEEDBACK

With our new feedback options, security officers can check the progress of their training, based on training time, number of bags and correct responses. With this feature users can easily see what the status of their training is and how far they are away from the next training level.

REAL-WORLD VIEWING OPTIONS

To make the training as realistic as possible, we integrated all common image enhancement functions to provide the same viewing conditions as the security officer would have at the checkpoint.

- **ORIGINAL** Removes image enhancement filters
- **CONTRAST** Calculates the best contrast for every pixel
- **OO** Shows only organic materials
- **OS** Removes all metallic materials
- **NEG** Creates a photo negative of the image
- **B/W** Creates a greyscale image
- **HIGH LUM** Increases the brightness
- **LOW LUM** Decreases the brightness
- **METAL ONLY** Shows only metallic materials
- **METAL S.** Removes all metallic materials
DIFFERENT IMAGE LIBRARIES AVAILABLE

**CABIN**
Includes guns, knives, IEDs (Improvised Explosive Devices) and other prohibited items (e.g. fireworks, self-defense sprays). EU

**HOLD**
This edition contains a broad variety of IEDs made with different types of explosive material, object shapes and detonators. EU, DG

**CARGO**
The new cargo library includes various types of IEDs made with different types of explosive material, object shapes and detonators. EU, DG

**MAIL**
This new library features letter and parcel IEDs as well as general IEDs that are inserted in suitable surroundings. There is also a library version that additionally features guns, knives and other prohibited items. EU

**PRISON**
This library contains a broad variety of guns, knives, IEDs as well as prohibited items in prison environments (e.g. cell phones).

**POWER PLANT**
This new library is especially designed for X-ray screening in power plants. The library contains a broad variety of guns, knives, IEDs as well as prohibited items in power plant environments (e.g. cameras).

EU This library is fully compliant with the EU regulation that came into effect for aviation security in 2010.
DG There is also an extended version available including dangerous goods.

INDIVIDUAL SOLUTIONS
Upon request specific requirements can be considered and image libraries may be customized for individual solutions (e.g. Swiss military).

SOFTWARE INTERFACE
XRT3 FEATURES

- Scientifically based
- Individually adaptive
- Millions of bag to threat combinations
- Up to three threat items per bag possible
- Multiple views per threat item
- Reporting functions
- Data export
- Detailed level and session feedback
- User administration
- User import/export
- Multilanguage software versions
- Large image libraries for various areas
- Configurable response buttons
- Management by objectives (MBO)
- Management by organizational unit
- EU Training report
- Regular updates and software enhancements
- Seamless integration with other CASRA software
- Infoboard (optional)
- Webhosting (optional)

SYSTEM REQUIREMENTS

Our software can either be pre-installed on a local workstation (server-client) or be used as a web-based (hosted) solution. We recommend the following system configuration:

SERVER-CLIENT SOLUTION

**Server**
- Windows Server 2008 R2
- MS IIS 7.5
- SQL Server 2008 R2

**Workstation**
- Windows Vista SP2 or above
- Internet Explorer 9
- Microsoft Silverlight 5
- Screen resolution 1280x1024

HOSTED SOLUTION

- Internet connection (1 Mbit/s per user)
- Windows Vista SP2 or above
- Internet Explorer 9
- Microsoft Silverlight 5
- Screen resolution 1280x1024

Please note that these are general guidelines. For detailed information on the compatibility of your specific configuration of hardware, please contact us.