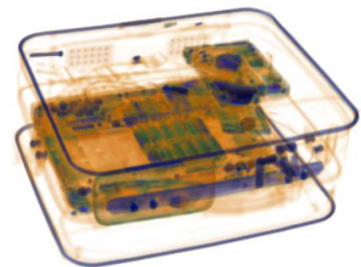
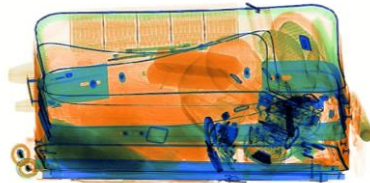
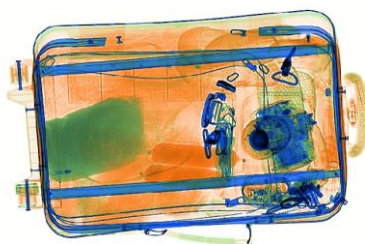


XRT4 Release Notes

Version 2.10.1

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XRT X-RAY TUTOR 4



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XRT4 RELEASE 2.10.X

This section includes all changes since 2.8.x. The skipped release 2.9.x was not published.

NEW FEATURES

1. SECURITY UPDATES

In XRT4 different packages are used. A package, or package management system, is used when individual files or resources are packaged into a software collection that provides a specific functionality as part of a larger system. In XRT4, such packages are used in many ways, for example in imaging. The packages are edited and updated by the publishers, and there may also be necessary adjustments in XRT4. Various such adjustments in XRT4 were started in Release 2.10.0. These changes will continue to take place, as this is a longer process. The training on XRT4 will not be affected and can be continued without any problems.

The transfer of the updates of the packages in XRT4 is necessary from a security point of view as well as from a functional point of view.



IMPROVEMENTS AND BUG FIXES

List of new or improved features and bug fixes that have not yet been mentioned in detail above.

2.10.0

NEW

Theoretical Block data does now show up in the *Modules Status* report.

NEW

Some warning messages were added to the database if the loading time for a report is unexpectedly long.

IMPROVED

Data Warehouse synchronization scripts have been improved in performance and functionality.

IMPROVED

The Purging within XRT4 has been improved.

BUG FIX

A bug has been fixed where a popup window was resized and the image in the popup window no longer respected the aspect ratio.

BUG FIX

A bug has been fixed where deleted trials still were visible in the module overview.

BUG FIX

A bug has been fixed where it was not possible to set multiple position markers during a 3D training.

BUG FIX

A bug has been fixed where in case of an idle timeout during training the end time and the duration were not calculated correctly.

BUG FIX

A bug has been fixed where a passmark icon and the font color was not displayed correctly.

2.10.1**NEW**

A new version of the XRT4 logo, as well as the CASRA logo, has been released and updated on the solution.

IMPROVED

The performance of the sessions overview in XRT4 was improved.

IMPROVED

The Log table has been extended with further information.

BUG FIX

A bug has been fixed where assigning a single content to a library was not possible.

BUG FIX

A bug has been fixed where it was possible to create course content with an XRT4 Basic license.

BUG FIX

A bug in the 3D Simulator has been fixed where a container got displayed a second time after giving an answer.

BUG FIX

A bug in the 3D Simulator has been fixed where it was not possible to set a position marker more than once.

BUG FIX

A bug has been fixed the zoom in combination with the localization did not work as expected in the dual view simulator.

BUG FIX

A bug has been fixed which caused that for a short time more licenses were in use than actual users logged in.

XRT4 RELEASE 2.9.X

The 2.9.0 release is not published. This was developed for a specific application, which is not made available. The following releases 2.10.X correspond again to the usual pattern.

XRT4 RELEASE 2.8.X

This section includes all changes since 2.7.x.

NEW FEATURES

1. ADDITIONAL CUSTOMS CATEGORIES

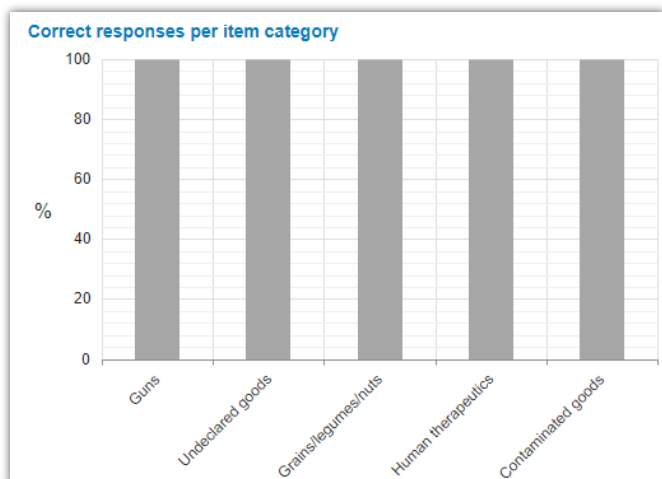
As we intensify the activities and offers in the whole Customs area, new categories for threat items had to be defined and implemented.

A new distinction is made between the following categories in addition to the existing categories:

- › Liquor/alcohol - miscellaneous
- › Humans - miscellaneous
- › Undeclared Goods - miscellaneous
- › Meat - miscellaneous
- › Seafood - miscellaneous
- › Dairies - miscellaneous
- › Fruits - miscellaneous
- › Vegetables - miscellaneous
- › Plants - miscellaneous
- › Grains/legumes/nuts - miscellaneous
- › Fungi/mushroom - miscellaneous
- › Human therapeutics - miscellaneous
- › Biologicals - miscellaneous
- › Contaminated goods – miscellaneous

All these categories can now be assigned to hazard states and thus used in modules. In addition, as with the other categories, it is possible to classify them in the simulator. These categories are also shown accordingly in all charts as soon as a use occurs.

CATEGORIZATION	
GUNS	IEDS
LIQUOR/ALCOHOL	HUMANS
MEAT	SEAFOOD
DAIRIES	FRUITS
VEGETABLES	PLANTS
GRAINS/LEGUMES/NUTS	HUMAN THERAPEUTICS



2. PERFORMANCE IMPROVEMENTS OF REPORTS

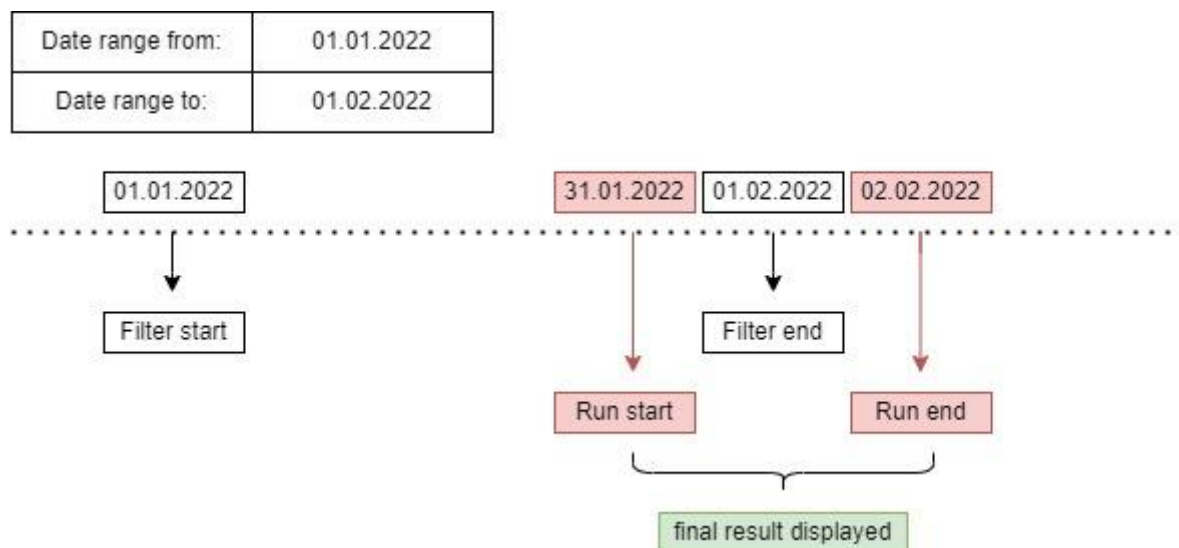
The growing volumes of data have an impact on performance of the reports. For this reason, the performance has been revised for some reports. The loading times of the reports were significantly improved by the revision.

Of the various reports that XRT4 provides, the once highlighted in bold have been improved in their performance:

- › Training Time
- › **Image Test Result Summary**
- › **Image Test Result Detailed**
- › **Training Level Performance**
- › **Module Status**
- › **Performance per Category**
- › Theoretical Course Summary
- › Theoretical Trial Result

3. DATE FILTER FOR REPORTS

The date filter function is available for all reports. However, the filter function should not only show the session started at that time, but the complete test run. Therefore, the filter function for all the test reports as well as the training level performance report and the module status report has been slightly adapted to follow this requirement.



IMPROVEMENTS AND BUG FIXES

List of new or improved features and bug fixes that have not yet been mentioned in detail above.

2.8.0

NEW

Two additional Passmarks (*MinCorrectlyProcessedClearTrialRate*, *MinCorrectlyProcessedSignalTrialRate*) have been added to the simulator as well as the reports.

NEW

New idle timeouts on the block and module feedbacks have been added.

IMPROVED

The shared trial concept was introduced which keeps the growing amount of data to a minimum. The concept reduces the amount of newly generated trials. This is made possible by "sharing" the trial configuration of the master module which is stored in CASRA organization. This is only possible when using the main module settings as the master module. This drastically reduces the amount of trials, simplifies the

distribution process and increases the performance as well as the speed of the entire application.

IMPROVED

The 3D simulator window can be resized during a simulation and the aspect ratio is adjusted accordingly.

IMPROVED

The x-axis labels in the bar plot which is displayed in the training dashboard are aligned with a 45 degrees angle.

IMPROVED

The library update process has been analyzed and improved.

IMPROVED

Packages have been updated in regards of the image display.

IMPROVED

All user manuals und guides have been updated to the newest version.

BUG FIX

A bug has been fixed where the same image appeared multiple times during the assignment of new content to a slave module.

BUG FIX

Bugs have been fixed in regards of the training dashboard.

BUG FIX

A bug has been fixed where some names of areas are not displayed correctly in the reports as well as their translations.

BUG FIX

A bug has been fixed where the *exclude obsolete level attempts* was not working in the *performance per category* report.

BUG FIX

Bugs have been fixed where the exports of reports did not work as expected.

BUG FIX

A bug has been fixed where the column filter field did not move if the column order was changed in both of the theoretical block reports.

BUG FIX

A bug has been fixed where the column titles *Trial Result* and *MaxTrial/Score* in the reports were not correct.

BUG FIX

Several bugs in regards of the Theoretical Block feature have been corrected.

BUG FIX

A bug has been fixed where the birth date of a user was overwritten in the user management as soon as it was saved.

BUG FIX

A bug has been fixed where a button was not working.

BUG FIX

A bug has been fixed where an error in the user group browser appeared where it should not.

BUG FIX

A bug has been fixed where categories in the categorization pop up have been truncated.

BUG FIX

Bugs have been fixed in regards of the idle timeout.

BUG FIX

A bug has been fixed where the sorting of users in the user management was only executed per page.

2.8.1

NEW

A new machine type for Customs high energy was introduced so the application needed to be updated as well.

BUG FIX

A bug has been fixed where the Time on System report showed a wrong duration.

BUG FIX

A bug has been fixed where the localization of a threat item did not work as expected.

BUG FIX

A bug has been fixed regarding the rounding of Passmarks in the reports.

BUG FIX

A bug has been fixed where it was not possible to generate trials for specific requirements.

BUG FIX

A bug has been fixed where some libraries were displayed multiple times in the library browser.

BUG FIX

A bug has been fixed where the export of a report crashed.

2.8.2

BUG FIX

A bug has been fixed where for some sessions the end time and the duration were not calculated correctly.

BUG FIX

A bug has been fixed where for theoretical modules with score 0 the results were not transferred to the Data Warehouse.

XRT4 RELEASE 2.7.X

This section includes all changes since 2.6.x.

NEW FEATURES

1. THEORETICAL BLOCK

Theoretical Block is a new feature integrated in XRT4 which enables the uploading, execution and evaluation of different forms of courses.


- › Theoretical exams
- › E-Learnings
- › Questionnaires

These courses must be created and configured in advance with an authoring tool (e.g. Adobe Captivate, iSpring, etc.) and exported in supported formats (such as SCORM, xAPI, CMI5).



Course content

These exported courses can be uploaded as course contents in XRT4. Course contents are versioned and the same course can be added in different languages to the same course content.



COURSE CONTENT

Upload and manage your theoretical exams, e-learning and questionnaires. The course content can then be integrated into theoretical modules

Theoretical Module

These uploaded course contents can be integrated in XRT4 modules.

The 'CREATE MODULE' form is shown with the 'Theoretical module' tab selected. It includes the following fields:

- Module type:** Two tabs, 'Simulator module' and 'Theoretical module'.
- Name ***: A text input field.
- Application ***: A dropdown menu.
- Area ***: A dropdown menu.
- Module template ***: A dropdown menu.
- Simulator configuration ***: A dropdown menu.

Only one course content can be assigned to a theoretical module. A minimum score can be added as well as the decision if course feedback should appear or not. Additionally the repetition of the module configured.

New Reports

There are two new reports:


- › Theoretical Course Summary
- › Theoretical Trial Result

The report “Theoretical Course Summary” shows the user's performance per theoretical module (Course Type, Course Language, result, points (%); min. points (%), duration, number of sessions).



THEORETICAL COURSE SUMMARY
Description: Shows the results of theoretical course per user.
Based on: Theoretical course summary

The report “Theoretical Trial Result” shows the user's performance per trial in a theoretical module (Course Type, Course Language, Question Type, Question, Question Result & Score, Answer, Duration per Trial).

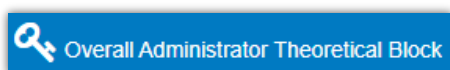


THEORETICAL TRIAL RESULT
Description: Shows the results of theoretical course per course, user and trial.
Based on: Theoretical trial result

Roles & Licenses

For being able to have access to the new feature “theoretical block” additional licenses are needed.

To upload course contents and manage theoretical modules an additional role is needed “Overall Administrator Theoretical Block”.



IMPROVEMENTS AND BUG FIXES

List of new or improved features and bug fixes that have not yet been mentioned in detail above.

2.7.0

NEW	A feature has been implemented to delete not used trials to use less storage and speed up processes.
IMPROVED	Additional translations of quick guides where added and existing documents updated
IMPROVED	Customs content handling and simulator was adapted to support "Customs HE" area
IMPROVED	The consent form has been updated
IMPROVED	The performance of creating or updating modules has been improved with adaptations on AssignSimulatorTrialsForModule, AssignBlockTrials, CommitBlockRun.

IMPROVED	The caching of images has been improved.
IMPROVED	The column name for all reports have been translated.
IMPROVED	The process has been adapted so that if a user gets logged out due to a timeout (application and series), the user needs to enter its login credentials for logging in.
BUG FIX	A bug has been fixed where the name and display name filter in the library browser as broken.
BUG FIX	A bug has been fixed where a slide entirely created in XRT4 was not displayed correctly.
BUG FIX	A bug has been fixed where a session error occurred while changing the parent group of a user group.
BUG FIX	A bug has been fixed where the slide block interrupted during back-navigation.
BUG FIX	A bug has been fixed where AssignSimulatorTrialsForModule caused flickering of the modules in the module browser.
BUG FIX	A bug has been fixed where the display option "each run" for slide blocks has not been working correctly.
BUG FIX	A bug has been fixed where the maximum concurrent licenses has not been applied on the copies of a CASRA module.
BUG FIX	A bug has been fixed where multiple entries for module licenses have not been recognized.
BUG FIX	A bug has been fixed where an organization could not correctly be deleted.
BUG FIX	A bug has been fixed where certain column filters for the report "performance per category" did not work correctly.
BUG FIX	A bug has been fixed where no data for "reaction time" and "image processing time" were displayed in the "training level performance" report.
BUG FIX	A bug has been fixed where the interaction between filtering and dynamic columns did not work correctly.
BUG FIX	A bug has been fixed where the module filter did not apply in the Excel and PDF export.
BUG FIX	A bug has been fixed where a user who never ran a session did not appear in the "Module status" report.
BUG FIX	Bugs have been fixed where certain errors occurred with a high load ("Could not conclude trial run", "Could not start BlockRunSession", "Could not start trial run", "Could not render infosheets").
BUG FIX	A bug has been fixed where the infosheets did not always appear.

BUG FIX

A bug has been fixed where the maximum session duration could not be changed and saved in a released module.

2.7.1**IMPROVED**

The display of the images has been improved with a so-called interpolation factor.

2.7.2**BUG FIX**

A bug has been fixed where some user groups were not loaded in the user management.

BUG FIX

A bug has been fixed where making changes for a user in the user management loaded too much data in the back-end and slowed down.

BUG FIX

The purging of not needed trials caused issues and got deactivated.

BUG FIX

A bug has been fixed, where multiple languages for one theoretical module caused problems in reporting.

BUG FIX

A bug has been fixed, where the matching question type of theoretical exams was not implemented correctly.

2.7.3**IMPROVED**

The Data Warehouse Synchronization Script has been optimized so that no users who are currently training are affected and it runs automated.

2.7.4**IMPROVED**

The End Time transmission was improved so that it is stored more accurate in some of the cases.

BUG FIX

A bug has been fixed where a in certain cases series could not be started.

BUG FIX

A bug has been fixed where some columns in the export of the report *image test result* were not filled with information.

BUG FIX

A bug has been fixed where the copying of theoretical modules was not implemented correctly.

BUG FIX

A bug has been fixed where the duration in the export of reports was not displayed correctly if it was more than 24 hours.

BUG FIX

A bug has been fixed where some recurring background jobs were deleted while the server restart.

XRT4 RELEASE 2.6.X

This section includes all changes since 2.5.x.

NEW FEATURES

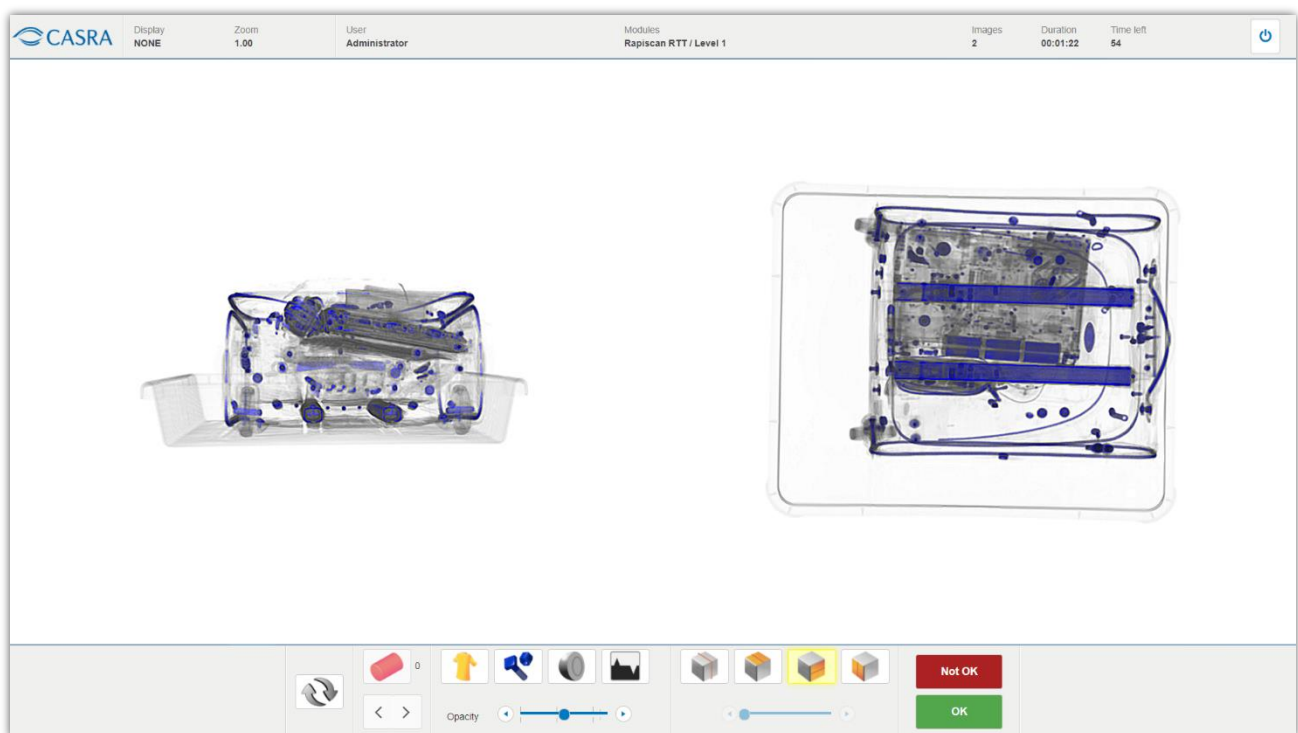
1. ADDITIONAL LANGUAGES

The following languages have been implemented in XRT4: Arabic, Bulgarian, Croatian, Hindi, Italian, Polish, Spanish and Swedish.

Translations within the application as well as of module information, presentations and quick guides have been made. Moreover, separate links to manuals and quick guides depending on language configuration have been implemented.

2. 3D RTT RAPISCAN SIMULATOR

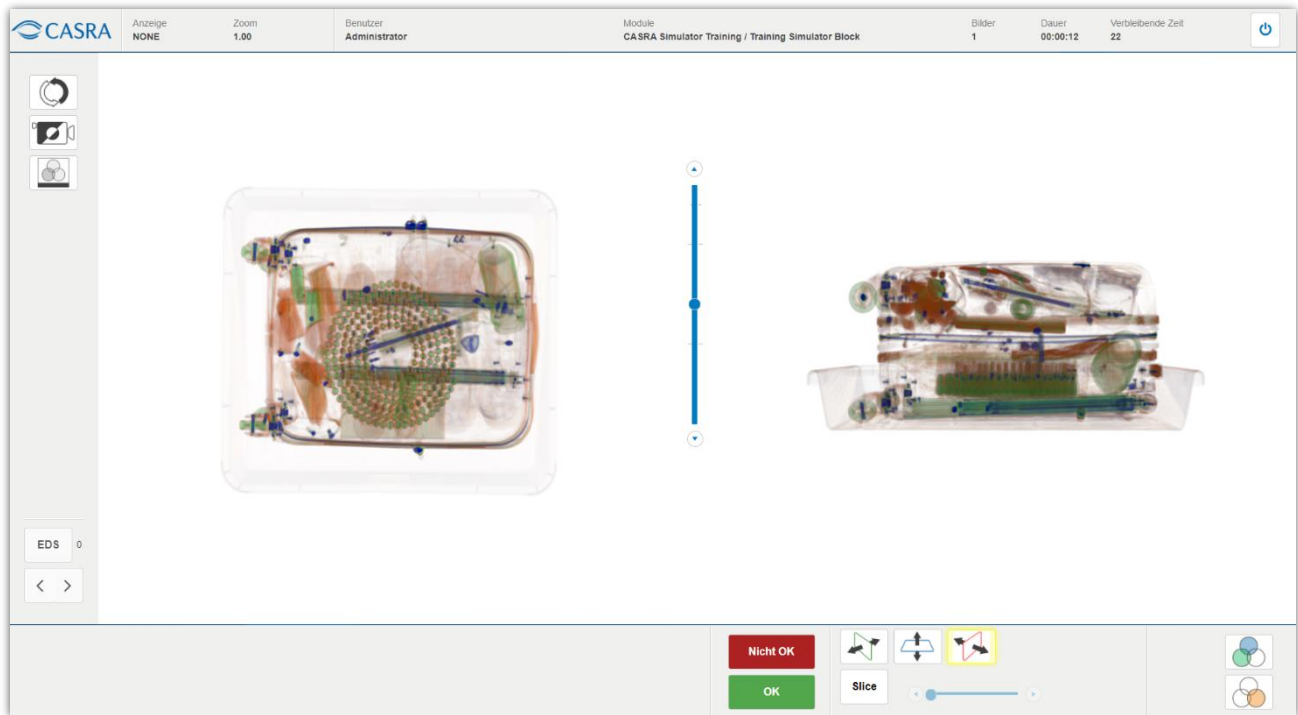
A new 3D simulator has been developed simulating the image rendering and coloring of the Rapiscan RTT machine. Further 3D HBS simulators are planned for upcoming releases.



The 3D simulator resembles the coloring of the Rapiscan RTT and provides the image enhancements organic only, organic stripping, black and white, negative.

3. L3 LEIDOS 3D SIMULATOR IMPROVED

The layout of the L3 Leidos 3D Simulator has been improved. Some of the UI components have been moved to make the simulator look and feel even more realistic.



4. REPORT – PERFORMANCE PER CATEGORY

There is a new report named “Performance per Category” accessible within the application with which managers can review the users' performance per each threat item category.



The report shows the performance of the user per module with the categories listed separately. The absolute number of correctly answered trials as well as the rates for each category are displayed. The report can be aggregated additionally per block or only per user. It is possible to filter the results, similar as for the other reports. It is also possible to export the results.

IMPROVEMENTS AND BUG FIXES

List of new or improved features and bug fixes that have not yet been mentioned in detail above.

2.6.0

NEW

XRT4 has been optimized so that one can import new Customs HE X-Ray content and display it in the simulator correctly.

NEW	Maximum concurrency on module level has been implemented.
IMPROVED	User and series session handling has been refactored and improved.
IMPROVED	The performance of reports has been improved.
IMPROVED	The filtering in the Users browser has been improved.
IMPROVED	The filtering in reports has been improved and the user scope has been updated.
IMPROVED	The filtering in the Trials browser has been improved by adding a filter for deprecated trials. Deprecated trials can be removed even when the module status is “released”.
IMPROVED	The display number of assigned images within a library has been added.
IMPROVED	The amount of rows in excel exports of reports has been extended.
IMPROVED	Several improvements in the Module Status report have been made.
IMPROVED	From this release, first name of users and user ID will be shown in browsers and can be filtered for.
BUG FIX	A bug has been fixed where the changes in the display name in a new version of a module didn’t refresh properly.
BUG FIX	A bug has been fixed where the library push update did not work correctly and the deprecated library remained assigned to the block.
BUG FIX	A bug has been fixed where changing or deleting an action button caused an error.
BUG FIX	A bug has been fixed which led to not being able to import users with the bulk import excel file.
BUG FIX	A bug has been fixed where an error occurred during unassigning an assigned trial.
BUG FIX	A bug in the automatic image proxy synchronization has been fixed.
BUG FIX	A bug has been fixed where the wrong error message appeared after not entering any password to start a password protected series.
BUG FIX	A bug regarding the available templates for module creation has been fixed.
2.6.1	
IMPROVED	It has been implemented that SSO is usable within XRT4 – if using VPN.
IMPROVED	The SQL-Scripts have been made SQL Server 2016 compatible.
BUG FIX	As a consequence of the improvement of the session handling (see improvements of section 2.6.0) we detected that not properly closed

test modules (i.e. closing browser after concluding a test) cause a data inconsistency in the data warehouse (visible in the reports). With this hotfix the cause of this issue is fixed and the data are corrected.

BUG FIX

A bug has been fixed where the “end date” filter in the module status report was not working correctly.

2.6.2

BUG FIX

A bug has been fixed where purging of a user did not work correctly.

BUG FIX

A bug in regards moving users in progress control has been fixed.

BUG FIX

A bug has been fixed where the trial browser in combination with filtering options and paging did not show all the images.

BUG FIX

By a close observation of the release 2.6.1 we detected that some few and special edge cases (e.g. executing long and heavy background processes while user are running courses) can cause data inconsistencies in the data warehouse (visible in the reports). With this hotfix the cause of these issues are fixed and the data is corrected.

BUG FIX

A bug where resetting a password did not reset the FailedCount has been fixed.

XRT4 RELEASE 2.5.X

This section includes all changes since 2.4.x.

NEW FEATURES

1. USER MANAGEMENT SCOPE

A new right has been implemented that limits access to user information. With the “NoScopeLimitation” right it is possible to view information of all users within the organization, while without this right one has access only to the information of his own user group and subordinated groups.

The new right is part of the Overall Administrator and the Overall Administrator Expert but not of the Administrator and the User. Adjustments for all the affected areas in XRT4 have been made (e.g. Report Management, Infoboard, Series, User Management).

Additionally, a new standard role “User Management” has been implemented. Users with this role can create, modify and reactivate users in their own user group and subordinated groups within their organization.

IMPROVEMENTS AND BUG FIXES

List of new or improved features and bug fixes that have not yet been mentioned in detail above.

2.5.0

IMPROVED	A busy indicator for loading times during slide blocks has been implemented.
IMPROVED	The performance of the Series Browser has been improved.
IMPROVED	The duration in the report “Image Test Results Detailed” is now displayed in the correct time format when downloaded as an Excel file.
IMPROVED	The performance of reports has been improved and date range filtering has been adjusted.
IMPROVED	The performance of progress control has been improved.
IMPROVED	The performance of user sessions have been improved.
IMPROVED	User Manual and Quick Guides have been updated.
BUG FIX	A bug has been fixed that caused negative training times in reports.
BUG FIX	A bug has been fixed where the simulator would not start when a category is excluded in the configurations.
BUG FIX	A bug has been fixed where resetting a lockout in one module influenced other modules.
BUG FIX	Adjustments for the standard role “OverallAdminExpert” have been made.
BUG FIX	The area icon for Customs HE has been implemented so it will be displayed correctly.

BUG FIX

A bug has been fixed that caused the Max. simulator block duration to not be correctly applied when starting two modules after each other.

BUG FIX

A bug has been fixed where sessions have not been closed correctly.

2.5.1**BUG FIX**

A bug has been fixed where the status of tests have not been showed correctly.

XRT4 RELEASE 2.4.X

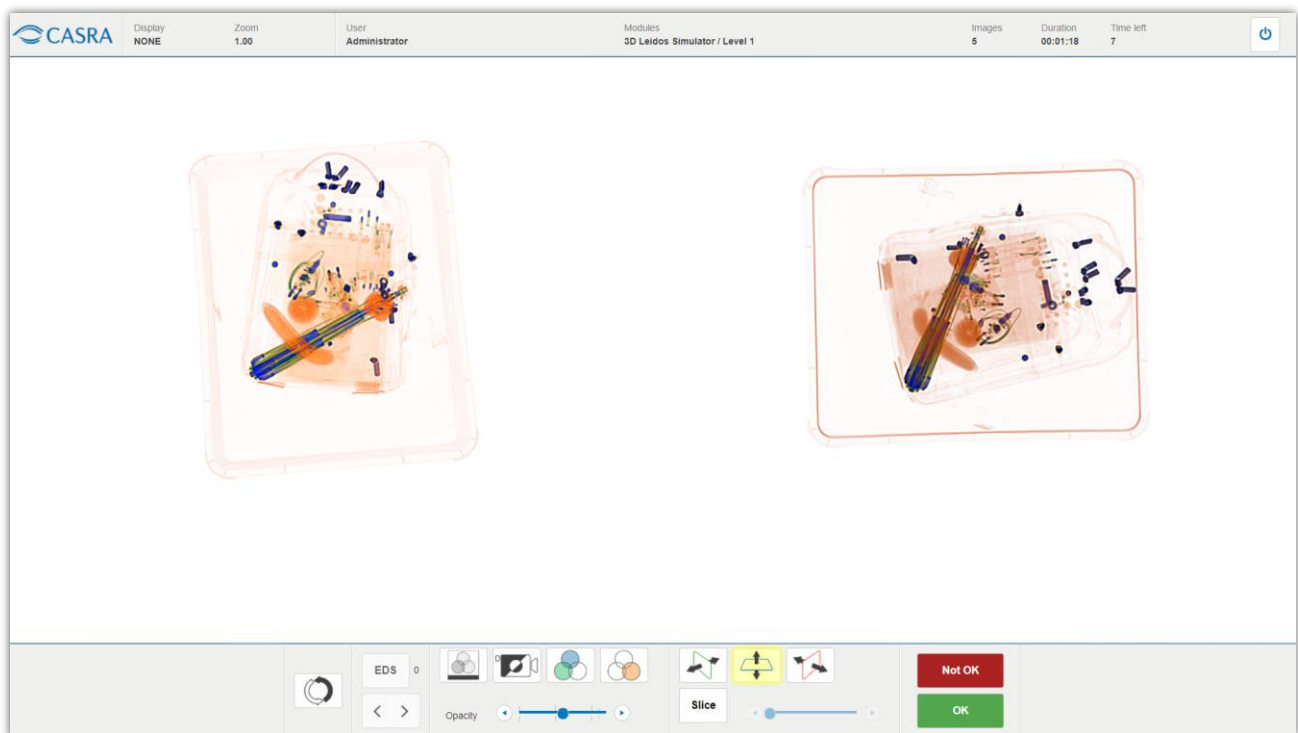
This section includes all changes since 2.3.x.

NEW FEATURES

1. 3D SIMULATORS

A new 3D simulator has been developed simulating the image rendering and coloring of the Leidos ClearScan machine. Further 3D simulators are planned for upcoming releases.

3D Simulator simulating ClearScan



The 3D simulator resembles the coloring of the Leidos ClearScan and provides the image enhancements organic only, organic stripping, black and white, negative.

2. SERIES – PASSWORD PROTECTION

In the series settings, it is now possible that password protection can be turned on.


Activate password protection	<input checked="" type="checkbox"/>
New password	<input type="password"/>
Password confirmation	<input type="password"/>

In this case the user has to type the right password while starting a module, otherwise the series start will be hindered.



3. REPORT – MODULE STATUS

There is a new report named “Module Status” accessible within the application with which managers can review the status of users' progress of modules. As a result, it is easy to get an overview about the status of the compliance of users completing modules, such as the training introductions.



MODULE STATUS
Description: Shows the status and the repetitions of modules per user.
Based on: Module Status


The report shows the status of each module run per user and module. If a module can be repeated by the user, each module run is listed separately in the report. It is possible to filter the results, similar as for the other reports. It is also possible to export the results.

4. MODULE UPDATE – AUTOMATICALLY SET USERS TO FORMAL LEVEL

When a new version of a module was created, it is possible to preset the users to a similar block as they were in the formal versions.

The user has to define which block of the selected version will end up in which block of the 'released' version. Based on the mapping the users will be preset to the concerning block. Only users which do not have completed the module already and users which did not have started the module will not be considered.

SET USERS TO BLOCKS





When creating new module versions, all users are placed at the beginning. With this function, users can be automatically placed in the blocks in which they were in the previous module version. Please be aware that this function cannot be undone!

Selected module Distrib Module
Selected version 1, V1, Deprecated
Target version 2, v2, Released

Block mapping

Block of the selected version	Map to block of the target version
3 Level 1 (Simulator)	Level 1
5 Level 2 (Simulator)	Level 2
7 Level 3 (Simulator)	Level 3
9 Level 4 (Simulator)	Level 4
11 Level 5 (Simulator)	Level 5
13 Level 6 (Simulator)	Level 6



5. ACTIVE DIRECTORY – EXTENSION OF THE CONNECTION

Before the new release the Active Directory Organization Unit (OU) was used to define the XRT4 group of a user in the application. We extended the Active Directory connection to not use active directory OUs and use only Active Directory groups for the placement of a XRT4 user. The existing connection continues to work in the same way as before.

6. DATA PRIVACY - PURGING

In addition to the user information, XRT4 also saves the results of the training sessions and tests carried out. According to the data protection law of the European Union, GDPR, the user has the right to have this data deleted. The detachment or obscuring of personal data takes place completely in order to meet the requirements of the data protection act.

In addition, deleting the data also serves to relieve the database and different levels of database relief are possible:

- › Detach of the performance data from transactional DB while maintaining the DWH data (reporting still possible)
- › Deletion of the data of an entire organizational unit including the data in the DWH (e.g. loss of a customer on the hosted solution)

The transactional XRT4 database is relieved by a periodic deletion of user interaction data that is no longer used. The data is still available in the XRT4 data warehouse.

For all installations the data purging is per default disabled and can be switched on if required (on local solutions). The data purging on our Hosted Solution is under control of CASRA.

IMPROVEMENTS AND BUG FIXES

List of new or improved features and bug fixes that have not yet been mentioned in detail above.

2.4.0

NEW

In the User Management a search field has been implemented to search and filter for user groups and the performance has been improved.

NEW

Before setting the maintenance window and kick-out the users, there is the possibility to send a warning to the still logged in users. This does not work when Active Directory is enabled.

NEW

A “write lock” for the CASRA modules has been implemented and the basic mode functionalities has been overhauled.

IMPROVED

The performance of all the standard reports have been improved.

IMPROVED

When a module, library or report is copied there will be automatically put the suffix '-copy' to all display names.

IMPROVED

The performance of accessing the trials and therefore also the trial browser has been improved.

IMPROVED

The consent form is per default activated and selected if a new organization is created.

BUG FIX

A bug that sometimes prevented loading the user data in the user group browser has been fixed.

BUG FIX

A bug where no validation messages showed up for a user's "valid to" date has been fixed.

BUG FIX

A bug where the image counter started at 0 after 200 trials has been fixed.

BUG FIX

A bug has been fixed where the date filter in the "User Feedback" report was not working correctly.

BUG FIX

A bug has been fixed where the date of a newly created version of a module was written into the database in local time, not in UTC.

BUG FIX

A bug has been fixed where the library content browser sometimes crashed for CASRA libraries in sub organizations.

BUG FIX

A bug has been fixed where the "name" and "deactivated users" filter in the reports was not working correctly.

BUG FIX

A bug has been fixed where the "assign selection" button was not working correctly.

BUG FIX

A bug where aborted sessions caused wrong session durations has been fixed.

BUG FIX

A bug has been fixed where the former performance data was not visible in the reports for the concerning user when moving the user to other user groups.

BUG FIX

A bug where there was a problem with setting users to lower level via progress control has been fixed.

2.4.1**IMPROVED**

The performance of running multiple simulator sessions has been improved.

BUG FIX

A bug has been fixed where users with the right "CanExecuteReport Usergroup" were able to see reports out of their scope.

BUG FIX

A bug has been fixed where messages for demonstration purposes were unintentionally displayed in home screen.

2.4.2**IMPROVED**

The performance of Training Level Report has been improved.

IMPROVED

The performance of User Feedback Report has been improved.

IMPROVED

Manuals have been updated.

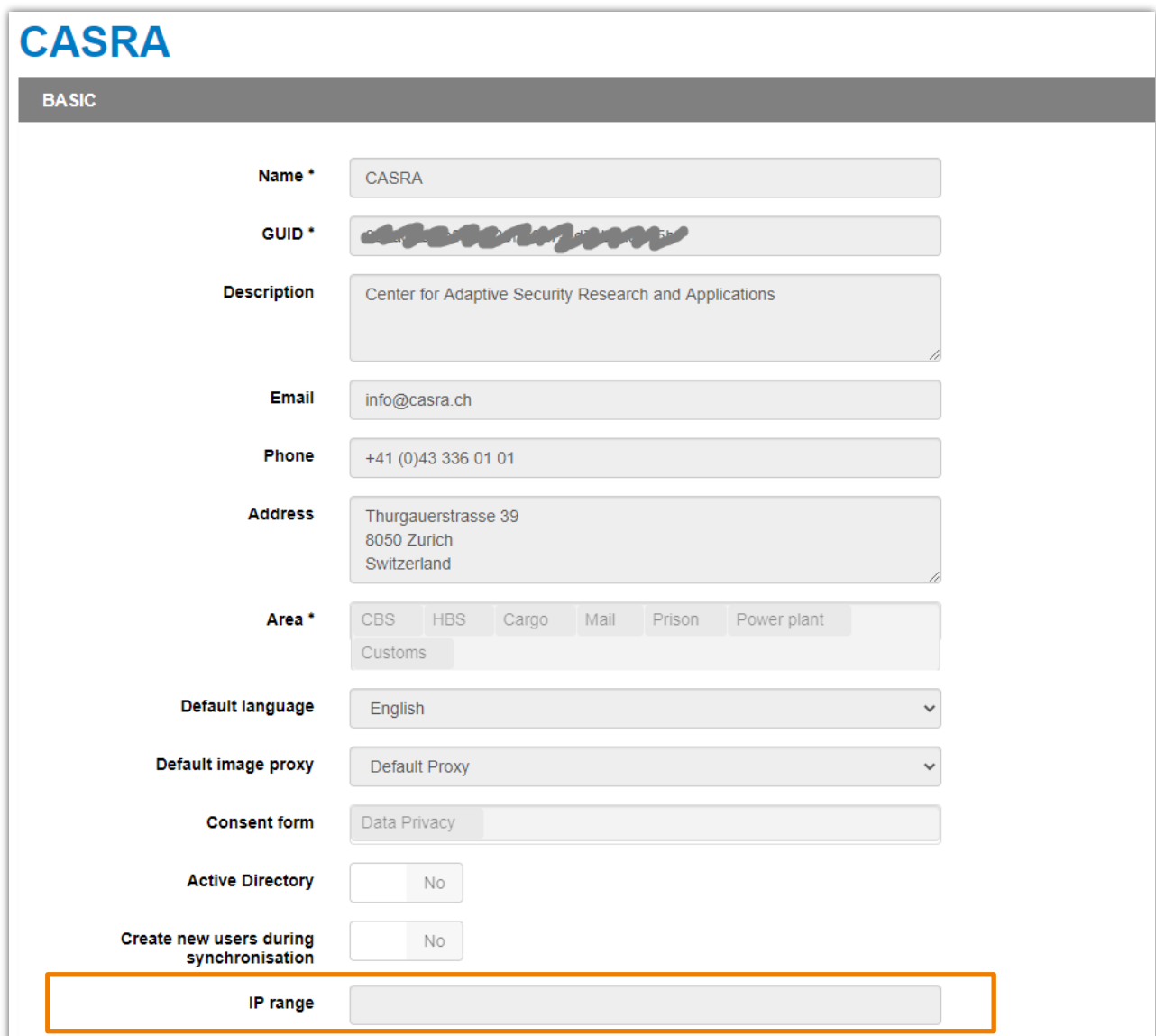
XRT4 RELEASE 2.3.X

This section includes all changes since 2.2.x.

NEW FEATURES

1. IP RANGE RESTRICTION

For customers on our Hosted Solution it is now possible to restrict login access to workstations of which the public IP addresses are listed under the organization settings. Several IP addresses or IP address ranges can be listed, separated with a semicolon.



CASRA

BASIC

Name * CASRA

GUID * [REDACTED]

Description Center for Adaptive Security Research and Applications

Email info@casra.ch

Phone +41 (0)43 336 01 01

Address Thurgauerstrasse 39
8050 Zurich
Switzerland

Area * CBS HBS Cargo Mail Prison Power plant
Customs

Default language English

Default image proxy Default Proxy

Consent form Data Privacy

Active Directory No

Create new users during synchronisation No

IP range [REDACTED]

2. REPETITION CONFIGURATIONS

In the module settings, it is possible now to define whether a training or testing module can be repeated by the user and if yes, in which circumstances and how many times. The setting **always** lets

the user repeat the module as many times as defined in the **max repetitions** field. If the setting is **on failed attempt**, then the module can only be repeated until it is successfully concluded.

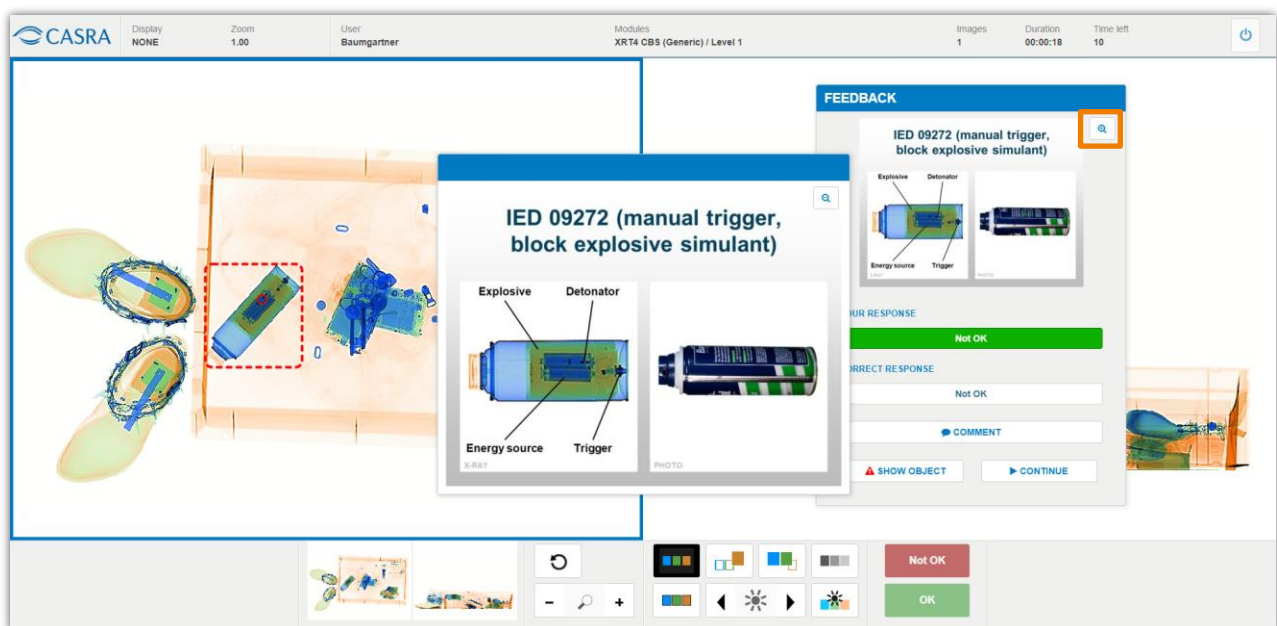
Repetition	No	Always	On failed attempt	Max repetitions	0	(0 = no limitation)
-------------------	----	---------------	-------------------	-----------------	---	---------------------

For training modules, only the no or always repeatable setting makes sense, as a training module is automatically successfully concluded once it has been completed.

Once no more module runs are possible according to the repetition settings, the series containing this module¹ will disappear from the home screen of the user.

3. INFOSHEET – ZOOM

While the feedback to image trials is shown during training sessions, the infosheet showing more details on the prohibited item can now be enlarged.

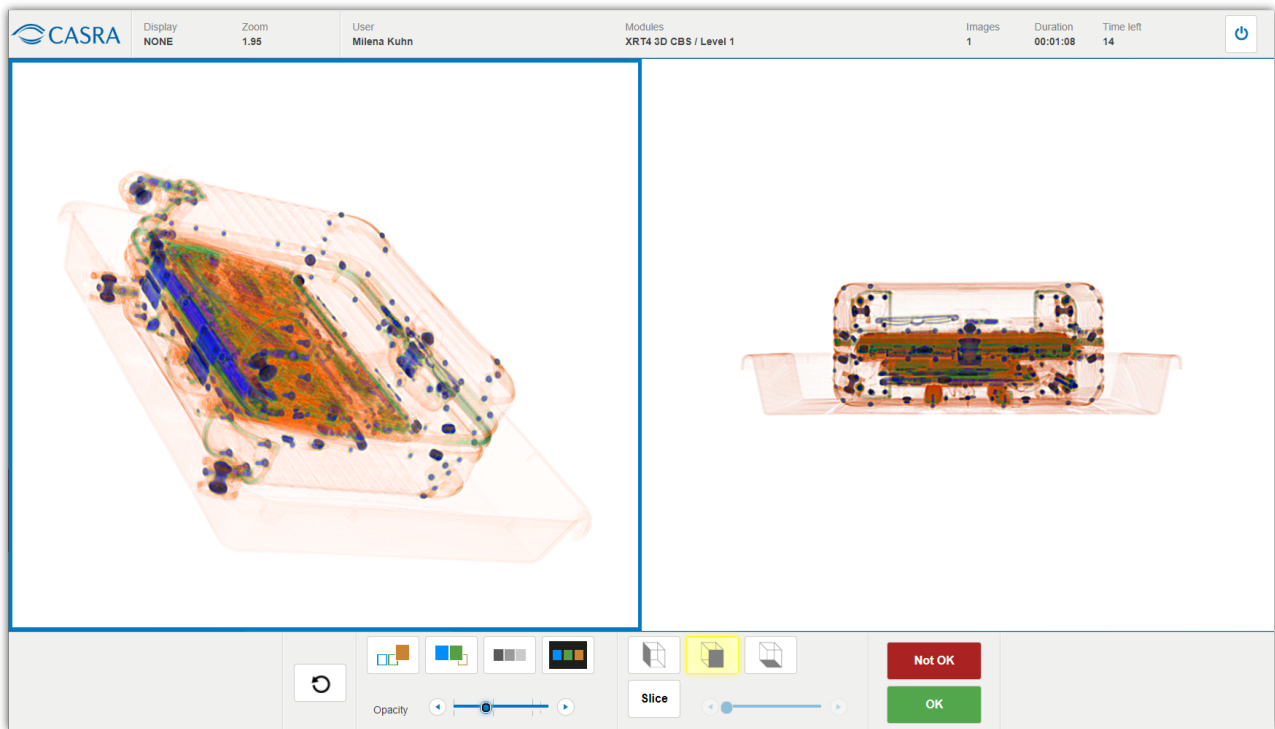


4. 3D SIMULATORS

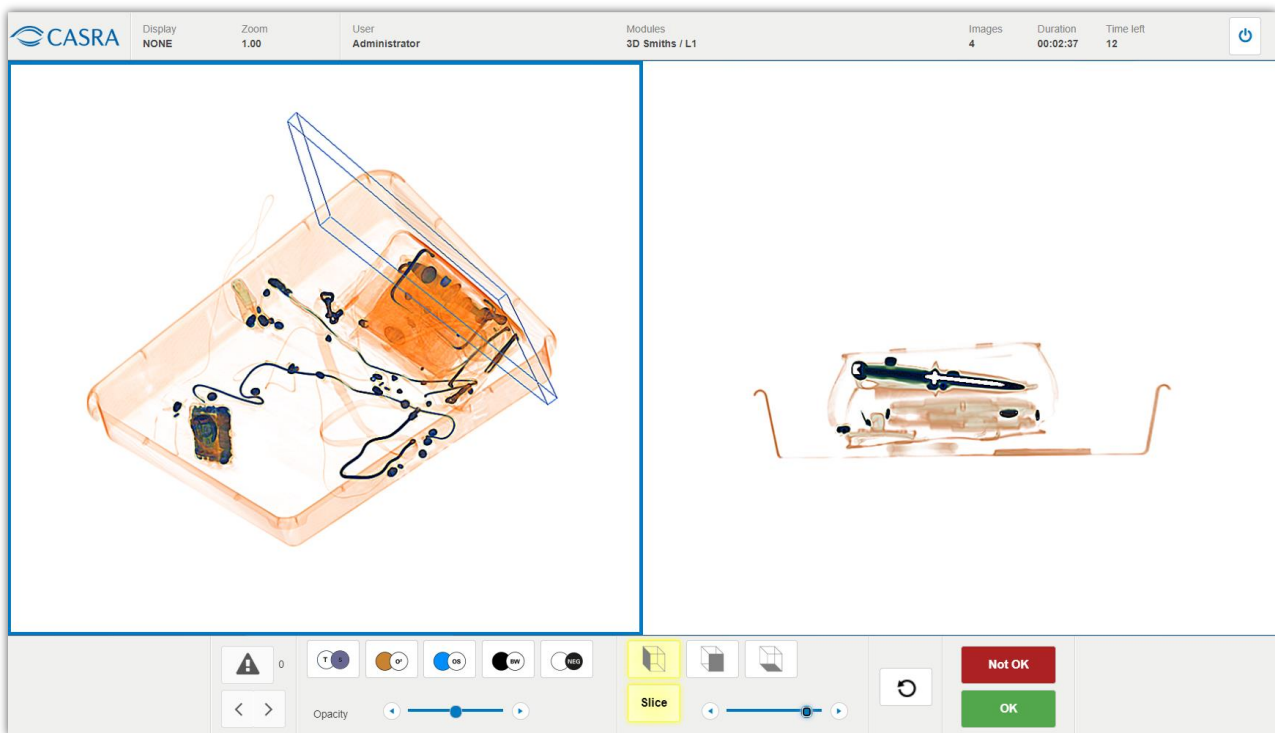
The image rendering of the CASRA 3D Generic simulator has been improved including the coloring of the available image enhancements. Additionally, a new 3D simulator has been developed simulating the image rendering and coloring of the HI-SCAN 6040 CTiX machine. Further 3D simulators are planned for upcoming releases.

¹ provided that there are no other still to be completed modules part of the series

Generic 3D simulator



3D Simulator simulating 6040 CTiX

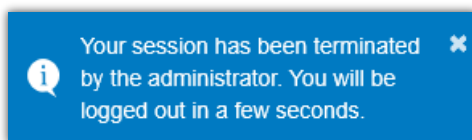


The 3D simulator resembles the coloring of the HI-SCAN 6040 CTiX and provides the image enhancements organic only, organic stripping, black and white, negative and the surface rendering (TS).

5. MAINTENANCE WINDOW – OPEN SESSIONS

On the Hosted Solution, a weekly maintenance window is planned. While customers are aware of this, sometimes users are still logged in when the maintenance window starts. Now it is possible for CASRA administrators to terminate all open sessions properly and send the logged in users a short message informing them that they are about to be logged out. The maintenance window is not working when Active Directory is enabled.

MAINTENANCE WINDOW						
07/27/2020 04:00 PM		OFF	Lockout: inactive			
State	Organization	User group	User name	Login time	Logout time	Duration (hh:mm:ss)
⊕	CASRA	Administrators	sbaumgartner	07/27/2020 13:54:40		00:13:12



6. ADDITIONAL APPLICATION CONFIGURATION PARAMETERS

The application has some new configurations that can be customized per organization:

- › **Application idle timeout:** max. time of inactivity before the user is automatically logged out (default: 5 minutes).
- › **Max. login attempts:** defines after how many incorrect login attempts the user will be inactivated (default: 3 times).
- › **Pause between series start:** a mandatory break between finishing one training or testing session and starting a new one can be enforced (default: 0 seconds).
- › **Series idle timeout:** max. time of inactivity during a training or testing session before the user is automatically logged out (default: 60 seconds).

7. SERIES – PLAY RANDOM ORDER OF MODULES

In the series settings, it is now possible to not only have users work through the modules in the fixed order as defined by the administrator, but to have the application order them randomly for every user.

CASRA ADMIN

RANDOM ORDER

GENERAL MODULE ASSIGNMENT USER GROUP ASSIGNMENT USER ASSIGNMENT

BASIC

Name: Random Order

Display name and description: en Random Order en Description

Module order: Ordered Random

Is activated: Yes

In the following example of a series containing two modules, the training module in blue is in progress by the user while the testing module in green has not been started yet. After the user will have completed the training module, the testing module will start.

RANDOM ORDER START

X-RAY CAT CBS V20.0

CBS TRAINING DUAL-VIEW

IMPROVEMENTS AND BUG FIXES

List of new or improved features and bug fixes that have not yet been mentioned in detail above.

2.3.0

NEW

The "date of birth" can now optionally be added to users in the user detail.

NEW

The region of interest (ROI) type "laptop" has been introduced for 3D images.

NEW	The report "system logon" will now also store the log text when a user has tried to login from a workstation of which the IP address does not match the whitelisted addresses for the respective organization.
NEW	The default view selection for the 3D rotatable images have been enhanced. Now it is possible to choose between front, side, bottom and top as a default view.
IMPROVED	A simplified way of storing the module data in the database has been introduced in order to improve performance of module development, module distribution and to optimize storage space.
IMPROVED	The progress control has been modified to prevent modules with the status "concluded" to be modified. As of now, progress of users can only be modified for "in progress" or "pristine" modules. This ensures data consistency.
IMPROVED	The way the object was emphasized during the feedback of 3D training when clicking on "show object" was improved. Now the object itself can be more closely analysed.
IMPROVED	The performance of importing 3D libraries has been improved.
IMPROVED	The PDF export functionality of reports has been improved by adding a busy indicator while exporting and adding the currently active language in the application to the PDF report.
IMPROVED	Slowly changing dimensions for module, module version and block names have been added to the data warehouse.
IMPROVED	The block setting "block is part of module evaluation" has been removed for training modules and will only be shown for testing modules, as there is no evaluation on module level for trainings, only on block level.
IMPROVED	When exporting a package from the application, the downloaded package will now have a readable name instead of only showing the package GUID.
IMPROVED	When giving feedback on an image during a training session, the tag of the category above the framed item will only be shown in sessions, where it is mandatory for the user to categorize an object. This was done to improve user experience.
IMPROVED	The loading time of the detailed view of a module in the progress control has been improved.
IMPROVED	The performance rate calculations for test modules has been adapted to more uniformly reflect the signal detection theory.
IMPROVED	A validation error feedback has been implemented when a user tries to release a module without a decision button of the type OK.

IMPROVED

If a test module has no passmarks defined, the passmarks will not be presented to the user after the test has been completed and the test module feedback is shown.

BUG FIX

A bug that prevented a role to be copied has been fixed.

BUG FIX

A bug in the bulk editing of users has been fixed.

BUG FIX

An issue that has resulted in the "time on system" report to crash for certain time durations has been fixed.

BUG FIX

The "max. simulator block duration" value has been added as a parameter to packages so that from CASRA exported modules and in customer environments imported modules will take over this setting.

BUG FIX

The filter functionality for modules in the reports "training level performance" and "image test result detailed" has been fixed.

BUG FIX

The filter functionality for usernames in the "training level performance" report has been fixed.

BUG FIX

A bug has been fixed that led to an error when trying to export the report "user feedback" as a PDF.

BUG FIX

A bug has been fixed where the shown entities for some of the columns in the "training level performance" were not correct when exporting to Excel.

BUG FIX

A bug has been fixed that prevented roles to be distributed to users via bulk editing in suborganizations.

BUG FIX

A bug has been fixed in the progress control, where after clicking cancel on the confirmation popup of moving a user between block, an application hang occurred.

2.3.1

NEW

New areas have been added.

IMPROVED

There has been an improvement, where the Image Proxy now also updates the timestamp of the synchronisation even when no content was changed.

BUG FIX

A bug has been fixed, where the caching of 3D images sometimes was not working.

BUG FIX

A bug has been fixed, where during the update of the slave module, the deprecation date of older version was missing.

BUG FIX

A bug has been fixed, where the version name instead of the display name was shown in slide block.

BUG FIX

A bug has been fixed, where the busy indicator remained after the excel download of the report was completed.

BUG FIX

A bug has been fixed, where the display name of the module was not translated.

BUG FIX

A bug has been fixed, where there was no "Last name" in the user detail view.

BUG FIX

A bug has been fixed, where the report "Image Test Result Detailed" hanged after the Excel download.

BUG FIX

A bug has been fixed, where not only the released modules in the image proxy were shown.

BUG FIX

A bug has been fixed, where the "assign all" button was deactivated in the trial browser.

BUG FIX

A bug has been fixed, where there were missing rows in the Excel download in the "time on system" report.

BUG FIX

A bug has been fixed, where the ROI colors in the 3D Simulator disappeared after clicking the button "show object".

BUG FIX

A bug has been fixed, where the images of 3D content in library content detail-view were not loading when not yet cached.

BUG FIX

A bug has been fixed, where there was no localized text in block feed-back shown.

BUG FIX

A bug has been fixed, where the Customs Simulator did not show the waybills.

BUG FIX

A bug has been fixed, where the DWH had ModuleRunSessionDims with more than one ModuleRunSessionFact.

BUG FIX

A bug has been fixed, where the Customs Simulator did not start if the user did not have the right 'CanReadContainerData'.

BUG FIX

A bug has been fixed, where the manual update of a library version did not work.

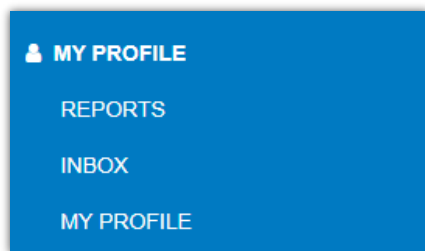
XRT4 RELEASE 2.2.X

This section includes all changes since 2.1.0.

NEW FEATURES

1. MY PROFILE

The "My Profile" section has been modified and extended. The previous "My Statistics" is now simply called "Reports", because for administrators it includes reporting data not only from themselves, but from other users.



Furthermore, users can visit "My Profile" and view their main **user information** without needing access to the user management. The information is displayed in read-only mode. Users can also change their **password** at any time or withdraw their consent to the **data privacy**, which is in line with the GDPR.

CASRA JOHNDOE

HOME / MY PROFILE

JOHN DOE

USER INFORMATION

User name * johndoe

Organization CASRA

User group * Administrators

Valid from 04/03/2020

Name * Doe

First name John

Roles CASRA Administrator

Valid to 04/03/2050

Active Directory User ☐ No

PASSWORD

Old password

New password

Password confirmation

DATA PRIVACY

I have accepted the data collection consent. To see or to withdraw the consent form please click: [Here](#)

2. MODULE STATUS

In order to give the users more information on the status and their progress in modules assigned to them, we have added small icons on the left of the module title and area icon.

An example:

X-RAY OBJECT RECOGNITION TEST START

X-RAY ORT

XRT4 3D CBS START

XRT4 3D CBS

The following icons are shown depending on the progress state of the module:



Not started: the user has not yet started the module.



In progress: the user has started, but not completed the module.



Succeeded/Completed: the user has successfully completed the module (passmarks were met).



Failed: the user has completed the module, but has not reached all defined passmarks.

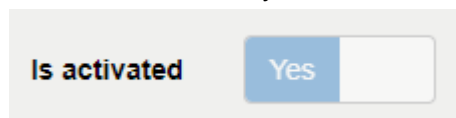


Locked out: the user has been locked out of the module and cannot proceed. The lock can be removed by the administrator.

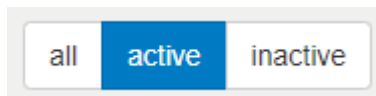
3. ACTIVATE AND INACTIVE SERIES

In order to allow administrators to better plan the roll-out of new training or testing modules, the following additional functionalities have been implemented.

- › In the **general** tab of a series, there is an additional setting called "is activated" that can be turned on or off. This way, the module and user assignment to a series can be prepared beforehand, but only made available to all assigned users later.

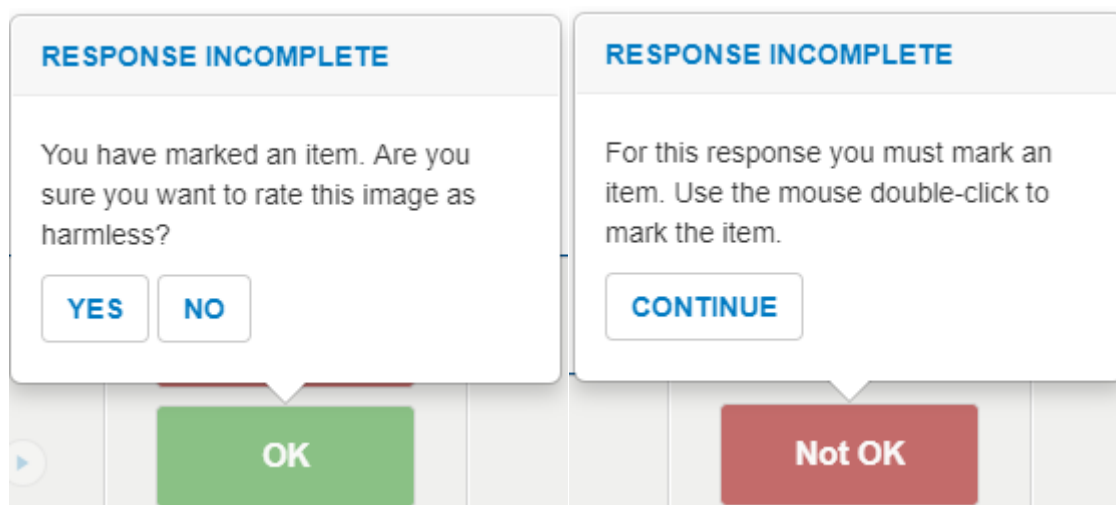


- › Furthermore, there is an additional filter option in the series browser, which allows to filter for only currently active series.



4. POP-UP DURING RESPONSE

To increase the usability when giving incomplete answers during training or testing sessions, a pop-up has been implemented to make the user aware for the fact and ask for a decision. A response can be incomplete because the user has marked a position, but rated the trial to be OK. The second possibility of an incomplete response is when there is no position marking, but the user rated the trial to be NOT OK (obviously, those cases are only relevant when the module configuration requires position marking).



5. REPORTS

The performance reports available have been thoroughly revised to be more user-friendly and to provide further important statistics. Training and testing reports are now separated, so that there are two reports for all training modules and two reports for all testing modules (selection and competency assessment). Furthermore, the performance of the loading times of the reports has been reduced and various small bugs have been resolved.

Training reports

- › *Training time*: aggregated training time (duration) per user and module.
- › *Training level performance*: aggregated training performance (e.g. images analyzed, %correct responses, status) per level or training session.

Testing reports

- › *Image test result summary*: overview on the test performance data per user (e.g. test result, A', d', Hit rate)
- › *Image test result detailed*: detailed test performance data per user.

IMPROVEMENTS AND BUG FIXES

List of new or improved features and bug fixes that have not yet been mentioned in detail above.

2.2.0

NEW

HIF images containing TIP projections can now be uploaded to XRT4 with XRT4 Expert. XRT4 will automatically create an item of interest with the category "TIP", which can then be edited in the container browser.

NEW

After logging in for the first time, all users will be asked to sign a declaration of consent about all data processing measures concerning the collection of personal data within XRT4. This feature can be enabled or disabled per organization.

NEW	The 3D simulator now allows users to indicate where they think the forbidden object is located via position marking, similar to the 2D simulators.
NEW	The dashboard has been reduced to only show aggregated data from training modules and does not includes testing module data.
NEW	A new features that allows to copy existing roles has been implemented.
IMPROVED	The reports are now more user-friendly and there are separate reports available on training and testing data.
IMPROVED	The organization license display in the organizations & users section allows for easier viewing.
IMPROVED	Improved performance and usability of the progress control.
IMPROVED	Improved performance of the library update process.
IMPROVED	The slicing/slabbing functionality can now optionally be turned off for 3D simulators.
IMPROVED	The performance of the 3D simulator has been improved.
IMPROVED	The image proxy synchronization performance has been improved.
IMPROVED	Various filters in browsers (e.g. container, library, module browsers) have been improved with the missing functionalities.
IMPROVED	Several validation processes and error messages have been introduced throughout the module creation process.
IMPROVED	The zooming behavior in the 3D simulator has been improved, so that the two views can be zoomed separately.
IMPROVED	Browser windows were enhanced with scroll bars so that small screen computers can use all available filter options.
IMPROVED	The "show object" functionality of the 3D simulator has been improved so that the effect of reviewing the object after receiving the feedback is optimized for object learning purposes.
IMPROVED	The usability of the module basic mode has been improved.
IMPROVED	Security risks have been mitigated by introducing addressing parameters which cannot be cracked by brute force methods.
IMPROVED	The image counter during training sessions will now only count the images seen within a session and not be aggregated on blocks/levels.
IMPROVED	The display and the usability of the licensing in the Organizations & Groups UI has been improved.
IMPROVED	The series idle timeout (i.e. time of inactivity after which the session is automatically closed) now also applies for the feedback pages.

IMPROVED	The evaluation and proper handling of training and testing sessions when a user ends a session in an improper way (e.g. closes browser) has been improved.
IMPROVED	The log messages in the system logon reports have been improved.
IMPROVED	A validation has been introduced with checks that only 3D content can be assigned to a 3D module, in order to prevent a crash during the module execution.
IMPROVED	The zooming behavior in the 3D simulator has been improved.
IMPROVED	The passmark "max. negative responses" has been added to the feedback page.
IMPROVED	Various missing translations have been added throughout the application.
IMPROVED	The correct handling of the influence of summer and winter time in the reports has been introduced.
IMPROVED	Default sorting of the system administration reports has been improved.
IMPROVED	The default image proxy server, which is normally hosted on the same physical machine as the web-server, is now integrated into the web-server. As a result, it is not necessary anymore to unlock the additional port 8443 in your firewall.
IMPROVED	Further validation checks and messages have been introduced for the purpose of releasing a module and the associated recreation of trials.
IMPROVED	An error message has been introduced to inform users, when the image proxy cannot be reached.
IMPROVED	The user group hierarchy has been improved so that existing hierarchies can be more flexibly adapted.
IMPROVED	The data storage in the data warehouse has been improved by removing unnecessary debug data in the AuditDim.
IMPROVED	The behaviour of removing an already placed position-marking has been improved, so that users do not need to click as accurately to successfully remove a marking.
IMPROVED	The filename-handling of exported reports (Excel and PDF) has been improved.
IMPROVED	The evaluation process for clear images, where users have set a position marking but clicked on the OK-button has been improved so that this will not count as a false alarm.
BUG FIX	Several issues with the reset button in the 3D simulator were fixed.
BUG FIX	The direction buttons in the 3D simulator were not always enabled when they should have been. This has been fixed.

BUG FIX	A bug has been fixed, where alarm frames in the 3D simulator were not shown even though the configuration said to "show frames".
BUG FIX	An issue that led to a disappearing 2D projection image in the 3D simulator after disabling the slice view has been fixed.
BUG FIX	Issues where the wrong date was shown in reports have been fixed.
BUG FIX	The user group filter in the user management had inconsistent behavior that has been fixed.
BUG FIX	Thumbnail images of newly created blocks of modules were not always shown unless the page was refreshed. This has been fixed.
BUG FIX	A bug has been fixed that led to an error when people clicked on the "exit" button during a training/testing session twice.
BUG FIX	Messages in the infoboard widget were not always correctly displayed, which has been fixed.
BUG FIX	When using Edge, the browser indicated in the About page said that it was Chrome instead of Edge. This has been fixed.
BUG FIX	Several bugs regarding the customs-specific simulator features (waybill and ATR) were fixed.
BUG FIX	A bug has been fixed, which sometimes led to wrong performance percentages per category in the dashboard.
BUG FIX	A bug has been fixed, which led to sessions sometimes not being able to initialize.
BUG FIX	A bug has been fixed where all trials were unassigned although only single trials were selected.
BUG FIX	A bug has been fixed where sometimes, competency or selection tests were not properly completed which led to missing evaluation values.
BUG FIX	The image enhancement Superenhancement (SEN) did not show the correct colors, which has been fixed.
BUG FIX	A bug has been fixed where the infoboard messages were not automatically showing the message body of the user language.
BUG FIX	A bug where trials were incorrectly removed was fixed in the trial assignment tab of modules.
BUG FIX	A bug where new reports showed incorrect report titles was fixed.
BUG FIX	A bug which allowed the same library to be added twice to a block has been fixed.
BUG FIX	A bug has been fixed which led to users being able to start a course even when they were locked-out.
BUG FIX	Errors that sometimes did not execute the auto-update of libraries in modules have been fixed.

BUG FIX

A bug has been fixed where the answer button pop-up for incomplete answers remained open for the next image trial, if the module configuration allowed a limited image display together with a default answer.

BUG FIX

A bug has been fixed where the answer button pop-up for incomplete answers was shown, although there was a position-marking present.

BUG FIX

A bug has been fixed which led to inconsistent column visibility when reports are copied in the report management.

BUG FIX

A bug has been fixed which led to an error after the user tries to reorder the slides in a presentation.

BUG FIX

A bug that sometimes resulted in users not being able to logout has been fixed.

BUG FIX

Inconsistent behaviour in the user bulk edit function has been resolved.

BUG FIX

A bug which sometimes led to the first 3D image of a session not being loaded has been fixed.

BUG FIX

Inconsistent behaviour with maximum session time configurations and the resulting timeout has been resolved

2.2.1

IMPROVED

The individually adaptive algorithm has been improved. The overemphasis on the aspect of training for weaknesses sometimes led to too many repetitions of images containing the same object. This has been mitigated so that the amount of repetitions is in line of what is expected of the individually adaptive algorithm.

IMPROVED

A scrollbar has been added to the role's browser to allow for easier navigation.

IMPROVED

The format of reporting columns has been enhanced with time format information, e.g. [mm:ss].

IMPROVED

The access to the background processes (hangfire) is now restricted by a right.

IMPROVED

The performance (responsiveness and loading time) of the "user feedback"-report has been improved.

IMPROVED

The paging behavior of the performance reports has been improved.

IMPROVED

The filter performance of the "system logons" report has been improved.

IMPROVED

Image loading during training or testing sessions has been improved (the amount of data loaded has been reduced).

IMPROVED

The upload of HIF images, which do not follow the standard image format of the respective X-ray machines is now also supported.

IMPROVED

Several security patches were introduced to further stabilize against malicious attacks against the system.

IMPROVED

A further differentiation in the active directory synchronization has been introduced which will prevent workstations to be listed as potential users in the AD OU and user group mapping browser.

IMPROVED

The performance of the content package export has been improved.

BUG FIX

In the series management, when filtering for permitted users in the user assignment of modules to series, the users assigned by user group were not taken into account. This has been fixed.

BUG FIX

In the infoboard management, when selecting user groups via the tree, they were not added to the dropdown list. This has been fixed.

BUG FIX

A bug which forced users to first logout and login again after creating a new organization has been fixed.

BUG FIX

An error that was shown when adding or removing a category to an action button, has been fixed.

BUG FIX

The user group filter during the user assignment to roles pop-up has been fixed.

BUG FIX

A bug that led to a frozen screen when changing the priority of an action button has been fixed.

BUG FIX

Some module settings that should be editable in a released version state of a module can now be edited again.

BUG FIX

A bug which led to the image analysis countdown starting before the 3D image was fully loaded has been fixed.

BUG FIX

A bug which led to the same user being created twice has been fixed.

BUG FIX

A bug leading to missing 3D images in the detail view of the container browser or the trial browser has been fixed.

BUG FIX

The infosheet of the previous trial is sometimes shown in the trial feedback, when the server is busy and the infosheet has not yet loaded. This has been fixed so that no infosheet is shown in those cases.

BUG FIX

A bug has been fixed which led to sessions not being properly closed when logging out.

BUG FIX

A bug has been fixed that did not prevent the assignment of a role with more rights than the user's own role via bulk-edit.

BUG FIX

Several issues have been solved which led to missing or inconsistent data writing in the DWH in a few specific cases. Reparation jobs have been introduced to clean up past errors.

BUG FIX

A bug where a user with the role "User" saw data from other users if the access to reports is granted has been fixed. The role "User" should only see her/his own data.

BUG FIX

A bug where the counter of the maximum display duration of an image started after the image has already loaded was fixed.

BUG FIX

Newly introduced security restrictions led to images not being loaded in the detailed-view of contents of libraries and modules in sub-organizations. This has been fixed so that images are shown where they are meant to be shown.

2.2.2

NEW

The Active Directory daily synchronization can be configured to not only update the user group and roles mapping and edit existing users, but to also create new users.

IMPROVED

The title of the trial feedback pop-up has been renamed to more user-friendly titles.

IMPROVED

The naming logic in reports of the data fields for first and last name have been unified and translations for the module run statuses have been added.

IMPROVED

The PDF export functionality has been improved.

IMPROVED

The usability of initializing reports via the "click to load" feature has been improved, so that they cannot be triggered before the system is ready.

IMPROVED

The performance of the progress control query has been further optimized.

BUG FIX

A bug has been fixed where a single line was shown on the home screen for series without an assigned module.

BUG FIX

A bug where released modules are not listed in the image proxy setting when there is a new in progress version of the same module has been fixed.

BUG FIX

A bug has been fixed to allow the user to cancel a user feedback.

BUG FIX

A bug which led to reports not loading if no end-date filter has been set was fixed. No end-date entry is necessary anymore.

BUG FIX

The date filters in the user feedback reports have been fixed.

BUG FIX

A bug that sometimes led to a flickering of the image when it is first loaded in the simulator has been fixed.

2.2.3

IMPROVED

The performance of querying the level performance report has been improved.

IMPROVED

The logic of checking at the start of a series whether a user already had another series running has been improved, so that users are not unnecessarily prevented from starting a series.

XRT4 RELEASE 2.1.0

With the new XRT4 release 2.1.0 CASRA focused on the development of the improved 3D Simulator, performance improvements as well as the implementation of new functionalities such as the CASRA Infoboard. This release is available for customers on the CASRA preview environment and as a local solution (installation on premises).

These release notes describe the improvements and implementation of new features between version 2.0.0 (January 2019) and the current version 2.1.0.

1. 3D SIMULATOR

CASRA improved their previous version of the 3D Simulator with various new functionalities and performance improvements. In the simulator, CASRA introduced a split screen which allows to display a 3D image as well as a 2D image side by side. The display options are all configurable in the module configuration.

The 3D simulator comes with a generic CASRA keyboard.

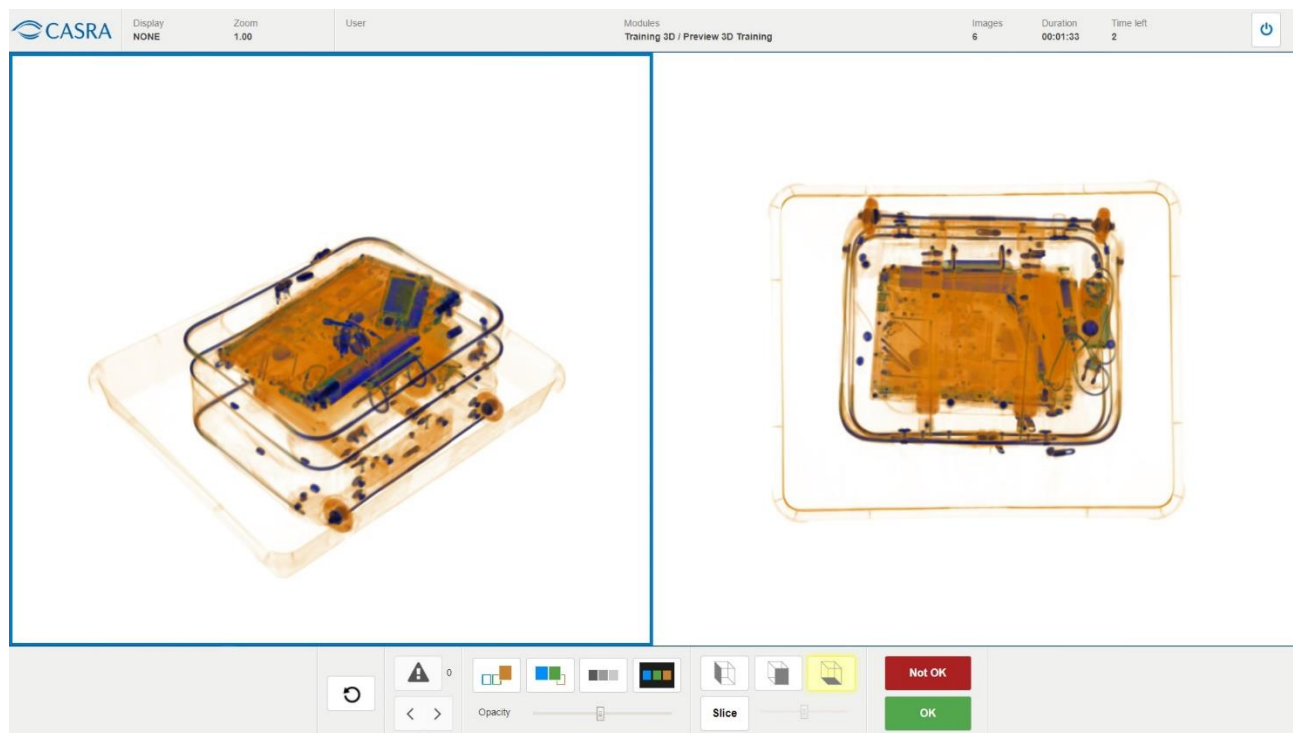


Figure 1: New 3D Simulator with a 3D / 2D split screen

The new functionalities included in this release are the following:

- › **2D view**
Shows a 2D representation of the 3D image. Switch between the top view, side view and front view of the 2D image. This also changes the orientation of the slice.
- › **Slice / Slab view**
Show a slice of the 3D image. Use the slider to move the slice. The 2D image shows a representation of the slice.
- › **Alarm extraction**

Show machine alarm frames in the 3D image. When switched on, only the alarm frame is shown in the 3D image, so that you can look more carefully inside the alarm frame. When switched off, the entire 3D image is shown. If there are multiple alarm frames, use the arrow buttons to step through them.

› **Additional image enhancements**

Switch on and off image enhancement. Slide the opacity slider to change the opacity of the 3D image.

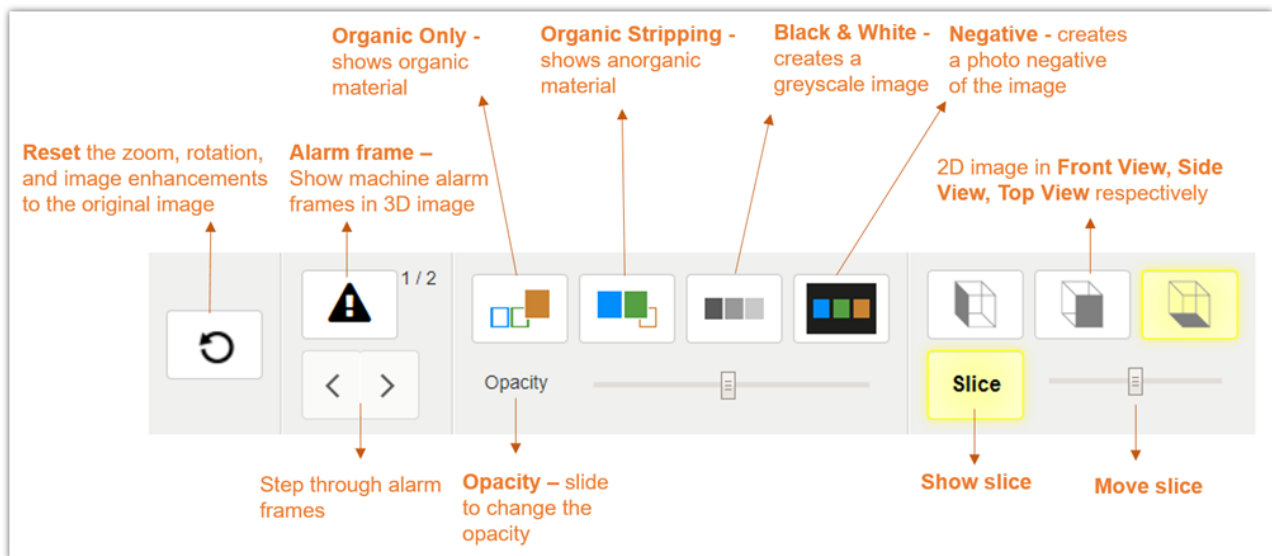


Figure 2: 3D Simulator Functions (Example)

2. INFOBOARD

The Infoboard is a central communication tool for managing communication within each organization. Messages with high importance will be displayed to the user directly upon logging as a pop-up window on the home-screen to attract attention to the information. Additionally, active messages are available in the message inbox, which can be accessed via the home-screen.

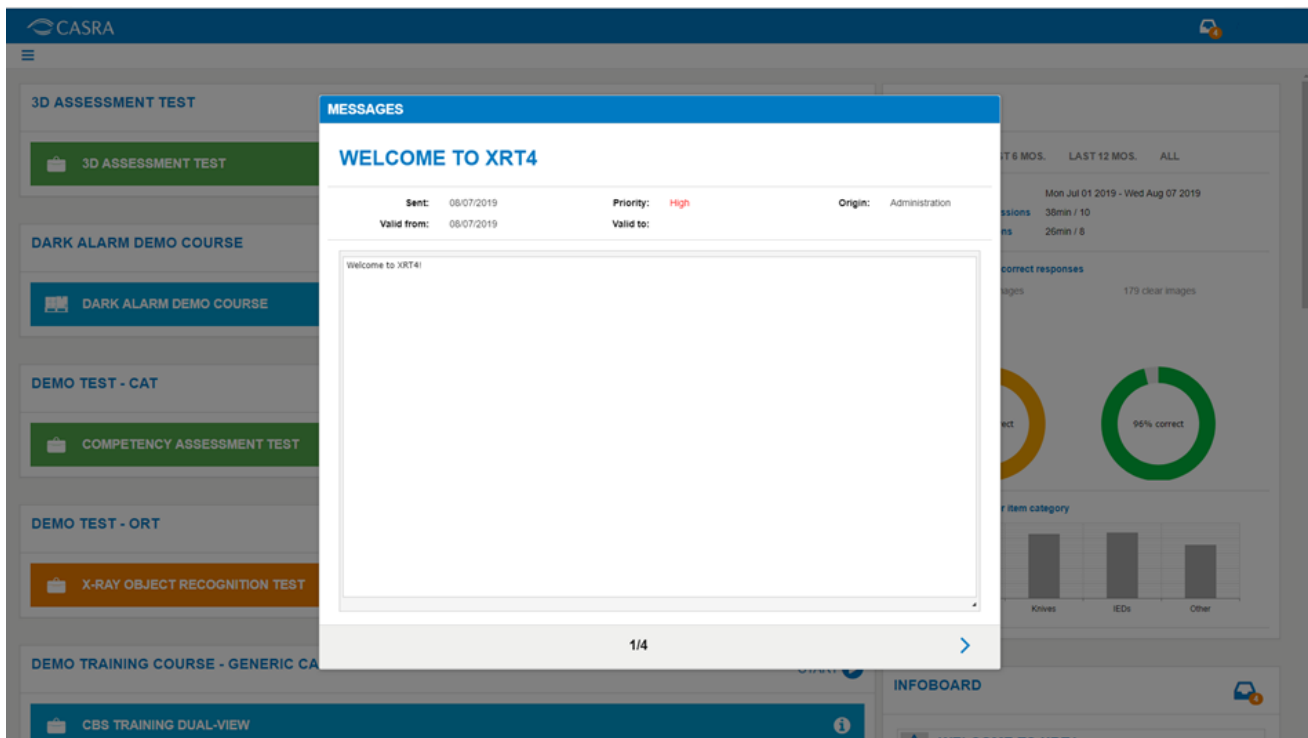


Figure 3: Pop-up for high importance messages

Administrators can create, edit and assign users to messages and send the message to the users when the message is ready. The Infoboard supports multi-language editing, which allows to compile the same message in several languages. Additionally, it also incorporates a read & sign function, which requires the user to confirm having received a message. All these functionalities can be configured separately for each message.

3. PROGRESS CONTROL

Progress Control provides information about the progress of users in training and testing modules. It also allows to reset a user's progress, or move a user to a higher or lower block. If a user has been locked out of a module, the user can be reset in this menu.

While the main menu offers an overview over all modules with information on how many users have or have not started the module, locked-out users and more, the module state window allows the moving of a user to a higher or lower block or resetting of a locked-out user.

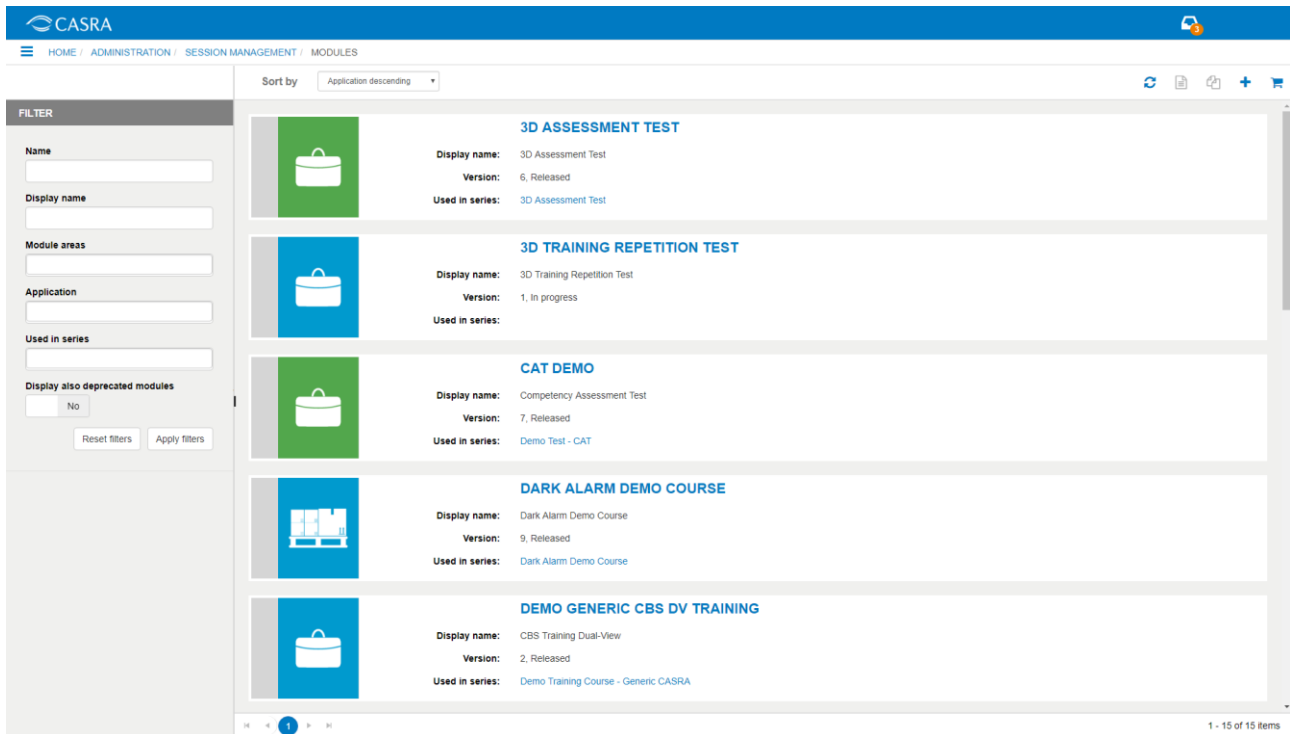


Figure 5: Module browser with filter menu and new "apply filters" button

5. PERFORMANCE IMPROVEMENTS

Another focus of this XRT4 release are performance improvements to ensure a better user experience. One of the main changes concerns the improvement on the waiting time when starting a module as well as the display of images. The other area of improvement is the upload and download time when importing or exporting a module, library or presentation package.

6. OUTLOOK

The next release of XRT4 (Release 2.2.0) is planned for the end of 2019. The focus of the release will lie in the implementation of a hosted environment, where customers can access XRT4 as a web-based solution (software as a service). In September, a mid-release 2.1.1 with bug-fixes will be available as well.

XRT4 RELEASE 2.0.0

XRT4 is a new CASRA product. With its new 2.0.0 version CASRA will provide the first release for customer use. XRT4 is available for customers on the CASRA preview environment and also as a local solution (installation on premises). With the release of a following version by end of the year 2019, CASRA will also provide XRT4 as a hosted solution (software as a service).

These release notes describe the improvements and implementation of new features between version 1.0.0, which was provided on the preview environment in 2018, and the new 2.0.0 version.

1. DASHBOARD ON HOME-SCREEN

Whenever performance results are available a dashboard containing data on the user's performance appears on the welcome screen upon logging in. In the dashboard the user can select different report periods showing his/her performances and training times during the selected time period.

The following time periods are available:

- › Half-year: the current half-year (January-June or July-December)
- › Last 6 months
- › Last 12 months
- › All

Based on the selected period, training times and performances of all conducted modules will be aggregated and displayed.

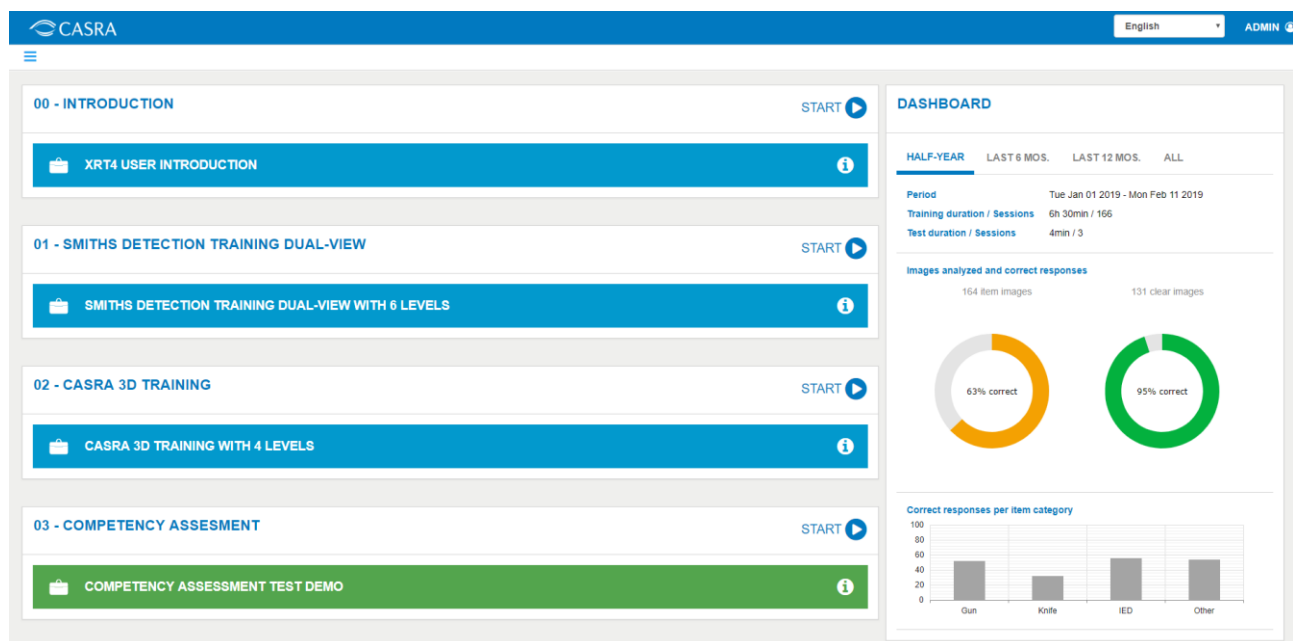


Figure 6: XRT4 Welcome Screen

2. HIGHLIGHTING OF THE OBJECT

The highlighting of threat objects within the simulator was improved with version 2.0.0 of XRT4. When the trial feedback is displayed, the object will be marked with a bold pink dotted box on all displayed views. A label stating the category of the object will also be displayed.

By pressing the “Show object” button, the box will flicker and the threat object is highlighted.

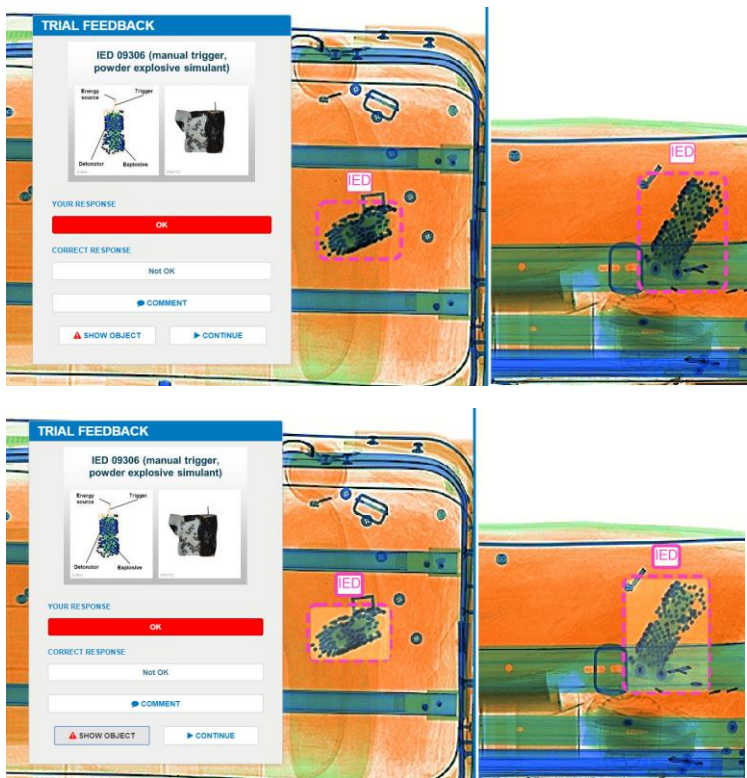



Figure 7: Item Flickering

3. USER FEEDBACK ON TRIAL

A new functionality allowing users to give a feedback to the displayed trial has been implemented. By pressing the “Comment” button on the trial feedback an additional pop-up appears. On this pop-up the user can specify the reasons for his feedback and can add some remarks as free text.

TRIAL FEEDBACK



Here you can comment on any issue that you encountered with this trial anonymously. Your feedback will be used to increase the quality of the module. Thank you.

Reason

Please select a reason. You can also select more than one reason

Other

The bag contains other forbidden objects

Unrealistic FTI placement or rotation

The FTI is not a forbidden object

Wrong Info sheet

Good Image

Remarks

In addition to specifying the reason, please describe the issue in detail.

Firelighter|

In the reporting section (My statistics) a new report “User Feedbacks” has been added. These administrator reports are not accessible to the users (unless specified), but only to the administrators of an organization.

Figure 9: Report "User Feedbacks"

CASRA
English ADMIN

HOME / MY STATISTICS / USER FEEDBACK ON TRIAL

FILTER

Date range from

Date range to

Organization

User group

User name

Content name

Reasons

Drag a column header and drop it here to group by that column

	Block name	Content name	Reason(s)	User feedback
Dual-View	Level 1	BAGGAGE_20140318_100422_89755	Unrealistic FTI placement or rotation. The FTI is not a forbidden object	bvngnmbvn
al-View	Level 1	tfc05306_BAGGAGE_20140222_161211_89755	The bag contains other forbidden objects	Firelighter
	Level 1	BAGGAGE_20140322_164956_89755	Unrealistic FTI placement or rotation. The FTI is not a forbidden object	hhhh
Dual-View	Level 1	ied10225_BAGGAGE_20140316_195657_89704	The bag contains other forbidden objects, Unrealistic FTI placement or rotation	fdfgfdfrfg
	Level 1	BAGGAGE_20140301_085946_89704	Good Image	Schwierig
	Level 1	BAGGAGE_20140304_184101_89704	The FTI is not a forbidden object	ghgggh
al-View	Level 1	tfc05300_BAGGAGE_20140307_193700_89704	Unrealistic FTI placement or rotation	durchsticht bag wand
al-View	Level 1	tfc09274_BAGGAGE_20140325_093015_89704	Unrealistic FTI placement or rotation	durchsticht tray wand
ngle-View	Level 1	t0001262_BAGGAGE_20140325_093015_89704	Wrong info sheet	dfsdf
Dual-View	Level 1	gun10618_BAGGAGE_20140216_211733_89755	The FTI is not a forbidden object	dfsdf
al-View	Level 1	kny10391_BAGGAGE_20140319_191515_89704	Other	This knife does not appear the best way! bad posoning lg Björn
al-View	Level 1	ied10211_BAGGAGE_20140331_200839_89704	Other	Long loading time for image
al-View	Level 1	BAGGAGE_20140304_184101_89704	The bag contains other forbidden objects	lighter
	Level 1	BAGGAGE_20140322_164956_89755	Unrealistic FTI placement or rotation. The FTI is not a forbidden object	ggghg
ngle-View	Level 1	BAGGAGE_20140301_085946_89704	The bag contains other forbidden objects	
al-View	Level 1	t0001236_BAGGAGE_20140307_193700_89704	Other	Why not select emergency response?
Dual-View	Level 1	ied10436_BAGGAGE_20140223_203744_89704	The FTI is not a forbidden object	dfsdfs
al-View	Level 1	BAGGAGE_20140328_101727_89755	The bag contains other forbidden objects	LAGs (wahrscheinlich nicht über 100ml, aber ganz ausschliessen können)
al-View	Level 1	BAGGAGE_20140225_103513_89755	Good Image	
Dual-View	Level 1	BAGGAGE_20140220_205307_89704	The bag contains other forbidden objects	yetsytrs
al-View	Level 1	ied10225_BAGGAGE_20140405_144914_89704	Other, Good Image	Can't close Feedback window if clicked accidentally
ngle-View	Level 1	ied10469_BAGGAGE_20140316_195657_89704	Unrealistic FTI placement or rotation	34ryruv
al-View	Level 1	gun10559_BAGGAGE_20140314_102748_89704	The bag contains other forbidden objects	

500 items per page
1 - 24 of 24 Items

4. ADDITIONAL MODULE CONFIGURATIONS

4.1. DIFFICULTY OF TRAINING LEVELS

In the new version of XRT4 the difficulty of each level be defined, by assigning image difficulty ratios (easy, medium, and difficult) to each module block.



The screenshot shows a 'RUN SETTINGS' window with a dropdown menu for 'Image difficulty rating method' set to 'Double or more wins'. Below this are three input fields for 'Image difficulty: easy' (85), 'Image difficulty: medium' (10), and 'Image difficulty: difficult' (5). Each field has a range '(0 - 100%)' to its right.

Image difficulty rating method	Image difficulty: easy	Image difficulty: medium	Image difficulty: difficult
Double or more wins	85	10	5

Figure 11: Image Difficulty Configuration

The difficulty of an image is calculated based on 3 factors (superposition and rotation of the object, and complexity rating of the bag). Those factors are only available for images which are provided by CASRA and therefore images which were uploaded to XRT4 by the customer, using HIF, JPEG, PNG, or other formats, cannot be used for the automatic calculation of the level difficulty.

With the “Image difficulty rating method” it will be defined how these 3 image bases factors are combined to calculate the overall image difficulty. The calculation bases on a matrix. Currently we provide two different methods:

- › **Double or more wins:** The combined difficulty rating is set by the difficulty parameters assigned to each IBF. When a difficulty parameter appears twice or more, also the combined difficulty rating of all IBFs will be set to that specific difficulty.
Example: Container complexity = easy, superposition = easy, Rotation = medium gives "easy" as a combined difficulty rating. When all difficulty ratings occur, the combined difficulty rating is set to "medium".
- › **Weighted:** A specific value is assigned to each difficulty parameter (easy = 1, medium = 2, medium = 3). Then the values of all 3 IBFs (Container complexity, Superposition, Rotation) are added. The resulting total of these difficulty parameters values is then assigned to a defined value range, resulting into the combined image difficulty (total = 3-4 → easy, total = 5-7 → medium, total = 7-9 → difficult).
Example: Container complexity = easy, superposition = easy, Rotation = medium equals a total value of 4 (1+1+2), which is assigned to the combined image difficulty rating "easy".

The image difficulty configuration for each module block is based on the selected image difficulty rating method and can be configured according to the customer's need.

4.2. TRIAL GENERATION

In the previous version of XRT4 all trials were always automatically calculated when a related configuration was changed (i.e. category of an action button has changed). Because the calculation and generation time of the trials will increase with the count of images, we removed this automatism. As a result, the administrator has to manually trigger the trial generation before releasing a module.

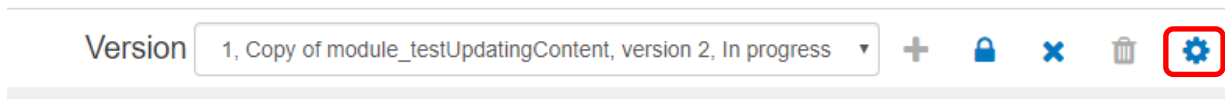


Figure 12: Trial Generation

By doing so, the trials will be generated by using a background process. Depending on the count of images of the assigned libraries this process can take up to 30 minutes.

5. SYSTEM REPORTS

Beside the user reports, XRT4 now also provides new administrator reports.

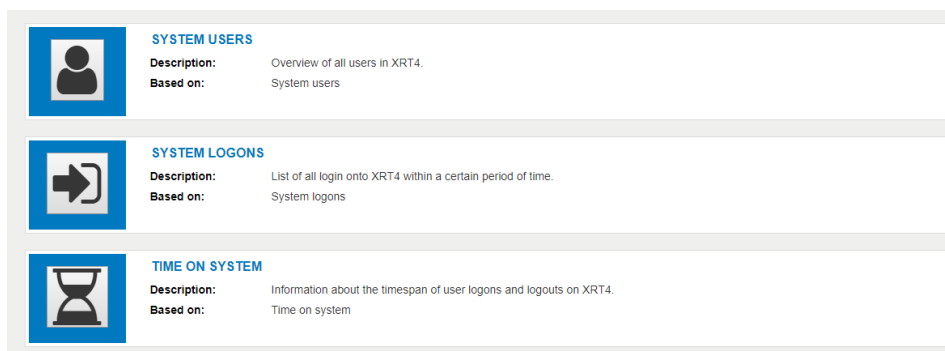


Figure 13: System Reports available for Administrators

- › System Users: Shows all XRT4 users and their current state (active/inactive)
- › System Logons: Lists all logins of the XRT4 users within a certain period of time. Additionally also actions such as “password changed”, or “login failed” are displayed.
- › Time on System: Lists the timespan of the XRT4 user’s logons and logouts.

6. ACTIVE DIRECTORY INTEGRATION

The XRT4 User Management can be synchronized with the Active Directory of your organization. As a result, XRT4 is capable to provide a single-sign-on access for all synchronized users.

In XRT4 the Active Directors OUs (Organization Units) are mapped to the XRT4 user groups. And the Active Directory groups are mapped to the XRT4 roles. Following figure shows the needed mappings.

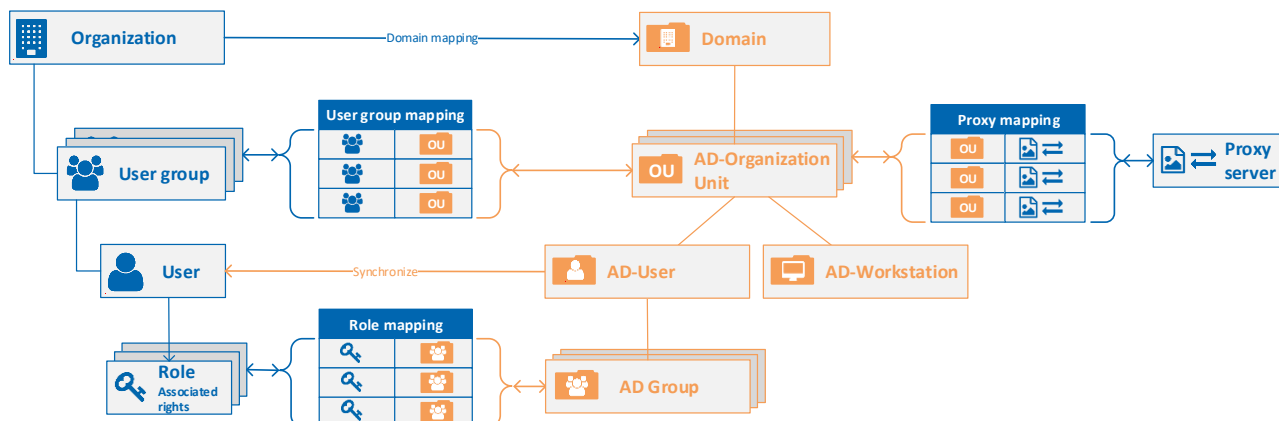


Figure 14: Active Directory Mapping in XRT4

7. IMAGE PROXIES

XRT4 is capable to support remote sites with low bandwidth internet-connections. At such sites an image proxy server will be installed. The concerning image proxy server provides the client with the images, which are then stored on in the network share of the fast local area network. The images will be synchronized regularly with the main servers of the data center. The following figure gives an overview over the XRT4 architecture.

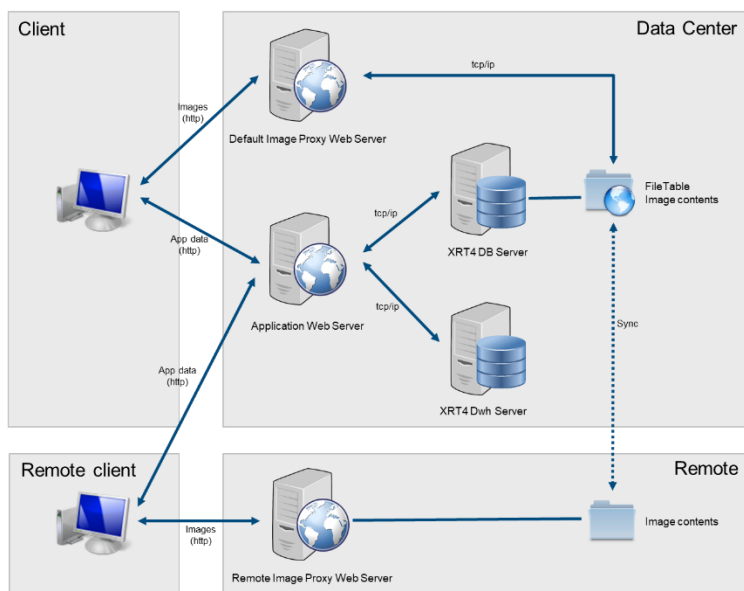
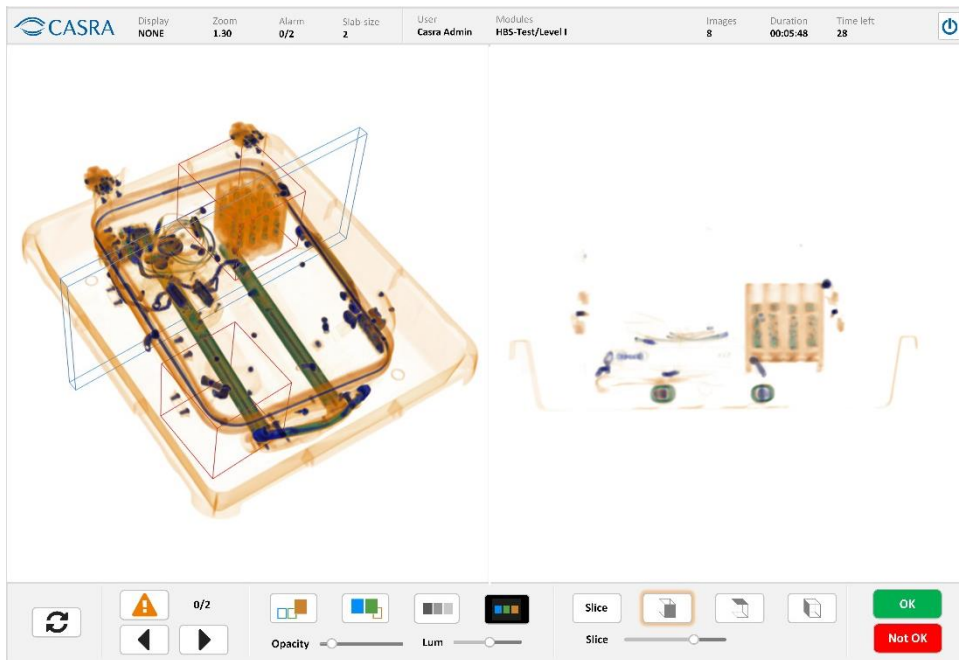


Figure 15: XRT4 Architecture

8. OUTLOOK

The next release of XRT4 (rel. 2.1.0) on the preview environment is planned for July 2019. The focus of the release will lie on the development of new features for the CASRA 3D Simulator.



The new 3D Simulator will provide the following additional functions:

- › 2D view
- › Alarm view
- › Slice / Slab view
- › Additional image enhancements