



SCENE

SCENE 4.8
SCENE LT 4.8
SCENE RECORD 4.8

RELEASE NOTES
JANUARY 2011

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1. Introduction

FARO is pleased to announce the release of SCENE 4.8, and would like to thank all users who gave valuable input for the improvement of the former release. With this release we deliver a new version of the FARO Laser Scanner software that will improve your ability for productivity, your mobility and ease of use in many directions.

2. Limitations

2.1. Language Support

SCENE 4.8 is available in English, German, Spanish, French, Italian, Portuguese, Chinese and Japanese, manual and online help are available in English only but will soon be available in the other languages.

2.2. FARO Photon and FARO LS Scanner Control

The control of FARO Photon is available in SCENE 4.8, if the scanner has the current firmware (ScanOpD 4.8) installed. . The control of FARO LS scanners is not available in 4.8.

3. New Features

3.1. Project Selector

SCENE 4.8 comes with a new and easy to use visual tool for managing and accessing scan projects: The Project Selector.

The Project Selector is the new start screen of SCENE 4.8 and provides a quick and convenient access to all your scan projects and project workspaces. The Project Selector shares look-and-feel and a lot of its features with SCENE WebShare.

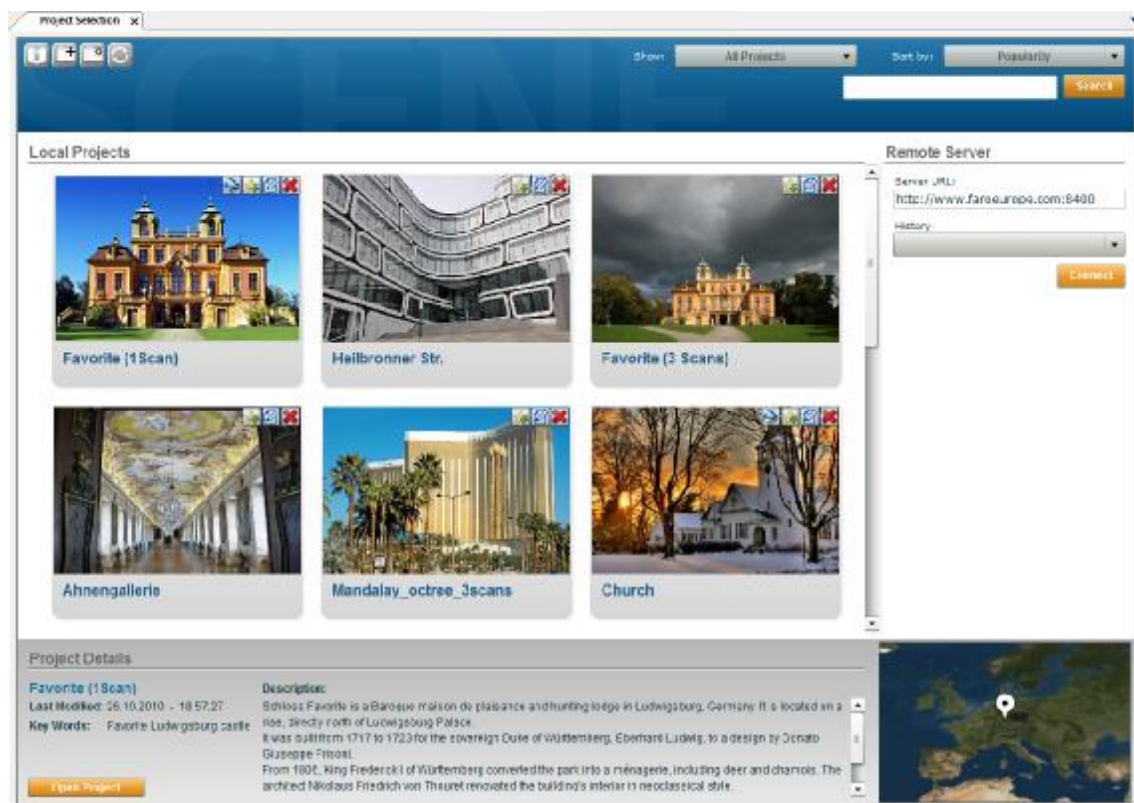


Figure 1: Project Selector

3.2. Support of FARO Focus^{3D} Scans

The new SCENE 4.8 supports importing and manipulating of scans that were captured with the new FARO Laser Scanner Focus^{3D}.

The FARO Laser Scanner Focus^{3D} saves its scans to a removable SD card. When inserting a FARO Focus^{3D} SD card with the captured scans into your computer, SCENE 4.8 will recognize it as a card coming from a Focus^{3D} scanner. It will automatically transfer the scans to a specified project folder on your local hard drive and import them to a new project workspace.

3.3. FARO Focus^{3D} Scanner Administration

The built-in FARO Focus^{3D} scanner administration functionality of SCENE 4.8 allows you to manage and manipulate your FARO Focus^{3D} SD cards, scanner settings and your scan projects offline and transfer all information to the scanner via the SD card.

This administration functionality provides an easy way to manage miscellaneous backups of your scanner settings, manipulate them within SCENE and transfer them back to your Focus^{3D} scanner. It also allows to create and prepare project-specific scanner settings and information from scratch. These so called *scanner snapshots* can then be transferred to your Focus^{3D} scanner.



Figure 2: Scanner administration

3.4. New Object Types

SCENE 4.8 introduces two new object types: Corner Points and Rectangles.

3.4.1. Corner Points

Corner points are formed by two intersecting perpendicular lines. Additionally to the position of the corner point it also contains a planarity that describes the evenness of the point's environment. Corner points can be detected automatically on a selection, a whole scan or a line container.

3.4.2. Rectangles

The detection of rectangles is based on line detection and searches for rectangular structures in the line detection's result. A rectangle consists of its midpoint (position), the normal and a major- and minor axis that define the extent of the rectangle. Rectangles can be detected automatically on a selection, a whole scan or on a line container.

3.5. Color Contrast Filter

The new color contrast filter function enhances the dynamic range of the the captured color pictures:



Figure 3: Colored scan points without color contrast filter



Figure 4: Colored scan points with color contrast filter

When colorizing FARO Photon scans, the color contrast filter will automatically be applied. The filter has to be applied to FARO Focus^{3D} scans manually.

3.6. New User Interface of SCENE WebShare

The user interface of SCENE WebShare has been redesigned; its range of functions remained the same.

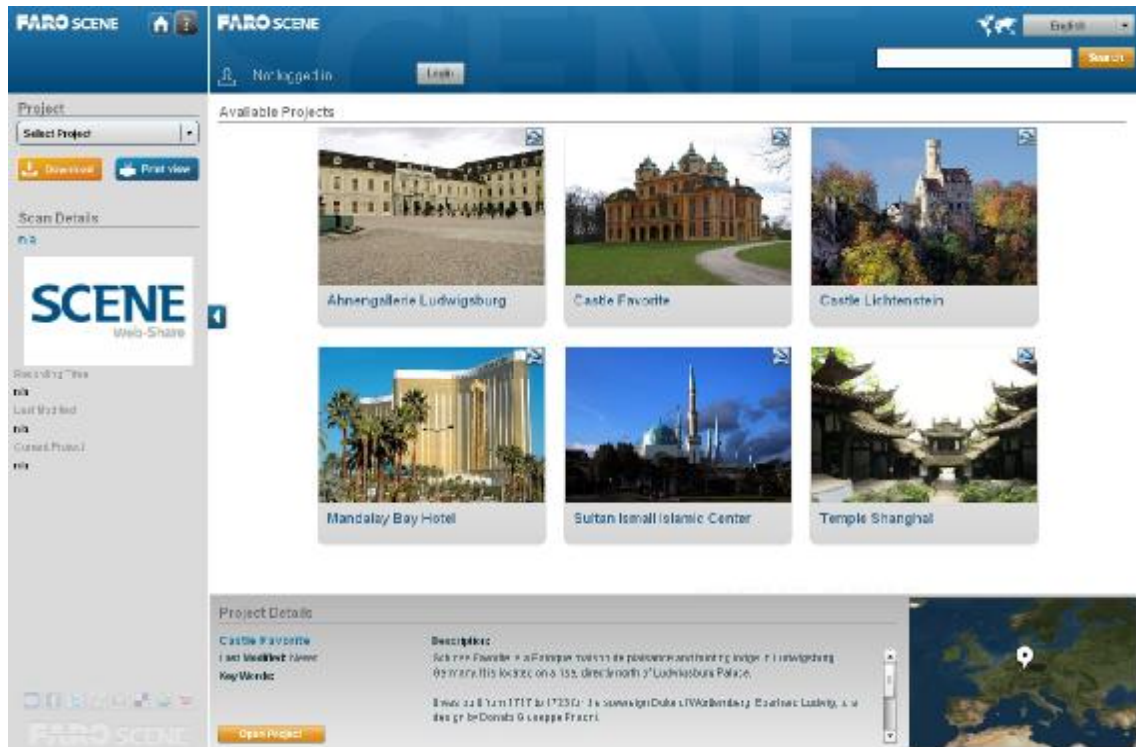


Figure 5: SCENE WebShare

The user interface of SCENE WebShare is now available in English, German, Spanish, French, Italian, Portuguese, Chinese and Japanese.

3.7. New Registration Features

3.7.1. Correspondence View

The correspondence view is a visual tool that enables registering scans in an easy way by moving and rotating individual scans to get correct correspondences of their references. This view is designed to allow manual placement of scans if automatic registration fails. Manipulators are the main tool of the correspondence view. They allow to move and rotate the scans and scan folders in an easy way.

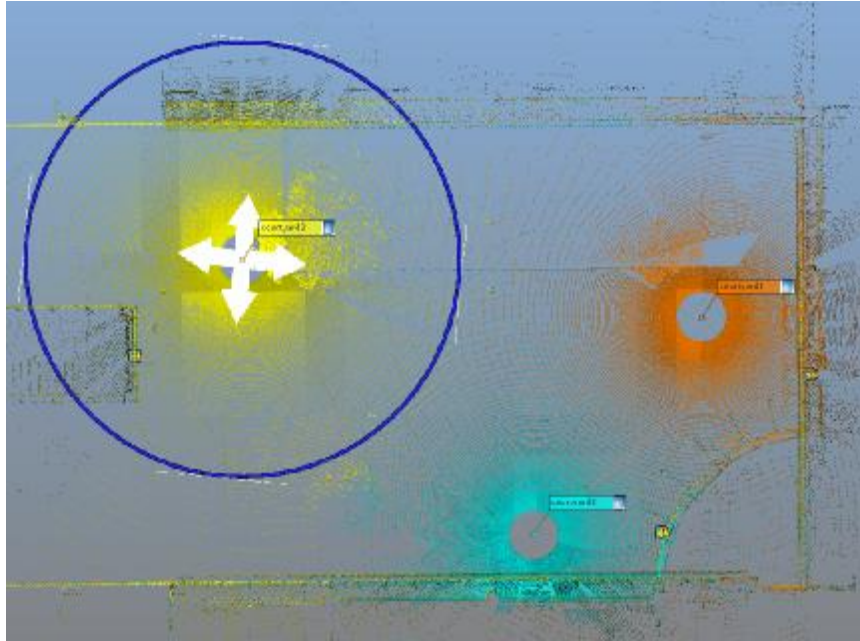


Figure 6: Correspondence View

3.7.2. New Automatic Correspondence Search

In former versions, SCENE used the name of the objects to identify correspondences. This means, objects with identical names were treated as being corresponding to each other. Objects with different names did never correspond to each other. This has changed now.

The new automatic correspondence search looks for similar geometric constellations in the scans and identifies corresponding scan and external reference objects and, if correspondences have been found, tries to name these objects accordingly. SCENE 4.8 treats two reference objects as corresponding to each other, if this assumption will lead to a good registration result. The names of the objects do not matter! If two objects have the same name, this doesn't necessarily imply that the registration process tries to match them to each other.

If the objects allow *automatic naming*, SCENE gives all corresponding objects the same name. If an object doesn't allow automatic naming, renaming might fail, so one or several objects might keep their old name. But with SCENE 4.8, they are still treated as corresponding!

The new automatic search is the default behavior in SCENE 4.8, and saves a lot of time compared to the manual approach. It is recommended to always use this behavior, and not to switch it off.

If you want to use the name of the objects to identify correspondences, then you have to execute the registration command *Force By Manual Target Names* of the context menu which forces correspondences by name.

3.7.3. Overall Alignment

When you don't have any externally surveyed reference objects for registration, the orientation of the overall coordinate system is directly derived from your reference scan in the reference cluster. With the use of the inclinometer it will at least be leveled, but if you did not pay special attention to the orientation of your reference scan, your workspace will have an arbitrary orientation.

The overall alignment function can be used to modify the overall orientation of the entire workspace according to the desired alignment of a plane or slab to a cardinal direction (north, south, east and west). Using this feature, you can define which cardinal direction lies *behind* a plane or slab when viewed from the scanner perspective. Note that using this feature it makes a difference, whether the scan was performed inside or outside of a building: when scanned from the inside, the northern wall of a building is north of the scanner. When scanned from the outside, it is in the south!

3.8. Changes in SDK 4.8

The FAROScanAnglesIf got a new function named getHorizontalAngle. The ordinary interfaces to read scans or to control the scanner have not been changed.

4. Known Issues

4.1. Progress Bar

Sometimes the progress bar of SCENE 4.8 does not disappear after an operation has been finished. Nevertheless you can continue working with SCENE as normal.

4.2. Saving Workspaces

Before saving your workspaces you should close all opened 3D and correspondence views.