

FARO® SCENE

Accelerating Reality Capture with Real Time On-Site Registration



KEY FEATURES

REAL TIME ON-SITE REGISTRATION

SCENE features real time, on-site registration which enables 3D scan data to be wirelessly transmitted, processed, aligned and registered directly to an on-site mobile device/PC in real time.

OVERVIEW MAP GENERATION

Create an overview map of the entire scan project. This map can be created for any project with the hit of a button and will be automatically created during the on-site registration.

ENHANCED ORTHO-IMAGES

The Ortho-image function allows users to create ortho-images in every alignment of the image plane. Users can also export the 2D images in x-ray mode via the common image file types and as 2D/3D .dxf files.

ADVANCED FILTERING

SCENE includes an enhanced Edge Artifact and Project Point Cloud Filter designed to improve the cleanliness and color balancing of each data set.

IMPROVED WEBSHARE CLOUD INTEGRATION

Upload scans, sections, and complete project point clouds directly to WebShare Cloud with all applied filters resulting in exceptional visual 3D quality data.

TOOLS FOR MANAGING HIGH-QUALITY 3D DATA FOR INFORMED PROJECT DECISIONS

SCENE software is specifically designed for all Focus, Freestyle^{3D} and third-party laser scanners. Process and manage scan data efficiently and easily by using real time, on-site registration, automatic object recognition, scan registration, and positioning. Generate high-quality data in full color quickly and conveniently by incorporating full-color images from automated targetless and target-based scan positioning.

Users can begin the evaluation and processing immediately by performing simple measurements, creating stunning 3D visualizations or exporting to various point cloud and CAD formats once SCENE 7.0 has prepared the scan data.

Share and collaborate worldwide anytime, anywhere with SCENE WebShare Cloud — a hosted service from FARO for easy and secure sharing of scan project data. With SCENE WebShare Cloud, projects can now be published on the Internet with all the applied filters resulting in best visual quality for 3D data.

BENEFITS

- ▶ Leave the project site with confidence using the on-site registration functionality to process, align and register scans in real time during the data capturing.
- ▶ Create 2D floor plans and sections resulting in true-to-scale project blueprints via the DXF export to be used in various CAD software.
- ▶ Benefit from the advanced filter options by cleaning data automatically during the data processing to deliver the most effective and high-quality visual projects.
- ▶ The Overview Map consistently provides a comprehensive survey of the completed project and allows easy navigation between scan positions.
- ▶ Export 3D point clouds faster and with exceptional visual quality directly from SCENE into WebShare Cloud.

SPECIFICATIONS

► Processing Scan Data

- Automatic search for reference spheres and checkerboard targets
- Targetless scan placement by TopView based registration or cloud-to-cloud registration methods. Alternatively, automatic identification of edges, corner points and fast plane detection
- Improved registration results through intelligent fine registration and additive verification
- Object markers for the manual identification of spheres, black and white reference targets, circular reference targets, planes, and slabs
- Online correspondence search for the automatic assignment of reference points. Now even faster through parallelization
- Automatic coloring of the scans with the high-resolution color photographs of the FARO color option
- HDR coloring of scan points with the aid of imported color photos
- Editing of multiple scans at once in 3D View
- Generation of new scan files of selected areas
- Filters (including “dark points”, and “stray points”)
- Optional Edge Artifact filter for additional noise reduction
- Create and view watertight meshes from 3d selections and clip boxes

► Data Management of Extensive Projects

- Project database with multi user interface and project history
- Hierarchical structure
- Graphical project view to manage all existing scan projects
- Bundling of an unlimited number of scans to one project
- Printable registration reports (PDF)

► WebShare Cloud

- Fully integrates with the SCENE WebShare Cloud service and SCENE WebShare 2Go 2.0
- Displays multi-overview maps exported from SCENE
- Automatically creates overview maps & panoramic scan images
- Enables simple measurements and the ability to add information, documents, hyperlinks, categories and tags
- Intuitive web-based administration tools to manage projects, users and sharing of information

► Navigation

- Displaying of scan positions for viewpoint selection and changing to other scans by clicking
- 3D navigation supports 3Dconnexion Space Mouse devices
- Predefined views (front view, side view, top view)

► Import & Export

- Control points for geo-referencing (.cor, .csv)
- Scan points (FARO Scan, FARO Cloud, ASTM E57, .dxf, VRML, .igs, .txt, .xyz, .xyb, .pts, .ptx, .ptz, .pod)
- CAD objects (.igs, .dxf and .wrl (import only))
- Import digital photos (.jpg, .png, .bmp, .tif)
- Export panoramic images (.jpg), export orthophotos (.tiff, .png, .jpg, .bmp and .dxf)
- Export meshes in standard formats (.stl, .obj, .ply and .wrl (VRML))
- Direct data transfer to: AutoCAD®, Autodesk® ReCap™, Revit, Microstation®, Geomagic®, Polyworks®, Rapidform, Pointools™, JRC 3D Reconstructor®, AVEVA®, Intergraph®, LFM™, FARO PointSense, PointCab™, Carlson and more than 100 others

► Creating Workspaces

- Project Point Cloud for efficient navigation in 3D data
- Object fitting with visual quality indicators for spheres/tubes/planes (including automatic border detection)
- The ability to take measurements
- Intuitive user interface with structure view
- Documentation objects to add notes and attach external documents via hyperlink technology
- Creation of virtual scans

► Analysis

- Distance measurements
- Additional capabilities using plugins

► Views

- Solid 3D surfaces rendering with full-color detail
- 3D View, Planar View & Quick View
- Stereoscopic visualization with suitable graphics board and 3D capable device
- Scans are shown either in color or black & white
- CAD object display
- Correspondence view to control scan placement on the screen
- Multiple clipping boxes to control the visualization in 3D View

► Minimal System Requirements

- **Processor:** 64-bit (x64) with at least 2-gigahertz (GHz) (For example, Intel Core i7)
- **Dedicated Graphics Card:** OpenGL 4.1, or higher, at least 2 GB Memory
- **Main Memory:** At least 16 GB RAM
- **Hard Disk Drive:** 256 GB Solid State Drive
- **Operating System:** 64-bit Windows™ 7 SP1 or higher
- **Screen Resolution:** 1366 x 768
- Display with 1366 x 768 screen resolution
- Internet connection for licensing SCENE
- Mouse with two buttons and scroll wheel

► Recommended System Requirements

- **Processor:** Quad-core Intel Core i7/Xeon
- **Dedicated Graphics Card:** OpenGL 4.1 or higher, at least 4 GB Memory, optional for stereo rendering: Nvidia Quadro
- **Main Memory:** At least 64 GB RAM
- **Hard Disk Drive:** 512 GB Solid State Drive + Regular HDD
- **Operating System:** 64-bit Windows™ 7 SP1 or higher
- **Screen Resolution:** 1920x1080
- Display with 1920 x 1080 screen resolution
- Internet connection for licensing SCENE
- Mouse with two buttons and scroll wheel

*Good for projects where the laser scanner resolution does not exceed 1/4, or the project size is less than 10 scans, and you are not using stereo rendering. Exceeding this may cause slow processing speed.

► Areas of Application

- Archeology and Historic Preservation
- Architecture
- Civil Engineering
- Construction
- Digital Factory
- Factory Automation/Planning
- Forensics and Accident Reconstruction
- Process and Power Industry
- Safety Engineering
- Surveying
- Virtual Effects/Movies/Games

To learn more, visit: www.faro.com/SCENE/sg

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