

# FARO® SCENE 7.1

The most intuitive and efficient software for scan data processing and registration

# FARO®

## Tools for Managing High-Quality 3D Data for Informed Project Decisions

SCENE software is specifically designed for all Focus, Freestyle 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 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 into various point cloud and CAD formats once SCENE has prepared the scan data. In addition, SCENE features an impressive Virtual Reality (VR) View, allowing users to experience and evaluate captured data in the VR environment.

Share and collaborate worldwide anytime, anywhere with SCENE WebShare Cloud – a hosted web-based service from FARO for easy and secure sharing of scan project data.

## EXPLORE SCAN DATA IN 2D, 3D AND VIRTUAL REALITY

Explore scan data in superior clarity and visual quality resulting from solid surface rendering and HDR colorization. Visualization of data in 2D, 3D and VR gives an immersive experience in viewing project point clouds in full detail in the 3D Virtual Reality.

## EFFICIENT DATA PROCESSING

Various tools for scan data filtering improve the cleanliness and color balancing of each scan data set. Batch-processing allows automated marker detection, scan optimization and scan registration with minimized effort.

## EASY DATA REGISTRATION

SCENE features professional and automatic workflows for target based and targetless (Cloud2Cloud) scan registration. The powerful on-site registration functionality performs complete scan project processing and registration directly on the measurement site in real time.

## INTUITIVE DATA ORGANIZATION

SCENE features a very intuitive and easy to learn user interface. Features such as hierarchical data structure or project history management allow efficient handling of large projects. A seamless integration of scan data is secured through the support of various import and export formats.

## PLUG-INS AND APPS FOR EXTENDED FUNCTIONALITY

Extend the SCENE functionality with various plug-ins and apps to obtain added value for special workflows and applications.

# SCENE



## BENEFITS

- ▶ Minimize project costs by utilizing automated data processing / registration workflows and a simplified software user interface
- ▶ Recreate project results using advanced workflow driven validation tools
- ▶ Intuitive and easy to understand reality representation provides immersive viewing capabilities to explore and evaluate scan data
- ▶ Leave the project site with confidence through the power of real time, on-site registration
- ▶ Expandable functionality within SCENE with integrated plug-in apps

# 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, planes, and slabs
- Combined target based registration: Automatic marker detection in both Freestyle and Focus scans during data processing
- 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
- 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
- On-site compensation: verification and adjustment of the scanner’s compensation, available for the new Focus<sup>S</sup> devices
- On-site registration: processing and registration of scans during scanning on site, function applies only to FARO Focus<sup>S</sup> Series Laser Scanners

## ▶ 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)
- 3D navigation via an overview map live in the Virtual Reality environment

## ▶ Webshare Cloud

- Fully integrates with the SCENE WebShare Cloud service and SCENE WebShare 2Go 2.6

## ▶ Analysis

- Distance measurements
- Additional capabilities using plugins

## ▶ Data Management of Extensive Projects

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

## ▶ 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

## ▶ Views

- Solid 3D surfaces rendering with full-color detail
- 3D View, Planar View & Quick View
- Virtual Reality View with exploration tools, such as measurements, annotations, screen shots, CAD visualization (VRML import)
- 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

## System Requirement

Specifications	Recommended
<b>Processor</b>	<ul style="list-style-type: none"> <li>• Quad-core X64</li> <li>• Intel Core i7/Xeon, 8 physical cores</li> </ul>
<b>Graphics Card</b>	Dedicated graphics card <ul style="list-style-type: none"> <li>• OpenGL 4.1 or higher At least 4 GB Memory</li> </ul> <b>Stereo Rendering</b> <ul style="list-style-type: none"> <li>• NVIDIA Quadro</li> </ul> <b>For VR Rendering</b> <ul style="list-style-type: none"> <li>• NVIDIA 1080GTX or similar</li> <li>• Oculus Rift or HTC Vive with Touch Controllers</li> <li>• SteamVR must be installed</li> </ul>
<b>Main Memory</b>	64 GB RAM
<b>Hard Disk</b>	512 GB Solid State Drive + Regular HDD
<b>Screen resolution</b>	1920 x 1080
<b>Operating System</b>	64-bit Windows™ 7 SP1 or higher
<b>Accessories</b>	Mouse with 2 buttons and a scroll wheel Internet connection for licensing SCENE

## Areas of Application

- Archeology & Historic Preservation
- Architecture
- Civil Engineering
- Construction
- Digital Factory
- Factory Automation/Planning
- Process and Power Industry
- Safety Engineering Design
- Surveying
- Virtual Effects/Movies/Games
- Crash reconstruction
- Crime scene investigation
- Fire investigation
- Fire protection engineering
- Security and pre-incident planning
- Reverse Engineering for Product

For more information, call 800.736.0234  
or visit [www.faro.com](http://www.faro.com)

