

FARO® SCENE Software

The Most Intuitive and Efficient Software for Interactive and Hybrid Scan Registration

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

FARO SCENE Software is specifically designed for all FARO scanning solutions and third-party laser scanners. Process and manage scan data efficiently and easily by using automatic target recognition, scan registration and validation. Generate high-quality data in full color quickly and conveniently by incorporating images from automated targetless and target-based scan positioning. Use Interactive scan registration for a more intuitive visual representation of automatic registration results. With Hybrid registration, integrate survey control points with cloud-to-cloud registration.

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 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.

Explore Scan Data in 2D, 3D and Virtual Reality (VR)

Explore scan data in unmatched clarity and visual quality due to 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. The automatic filter for moving objects significantly reduces the need for manual cleaning. Batch-Processing allows automated marker detection, scan optimization and scan registration with minimized effort.

Graphical representation of registration results

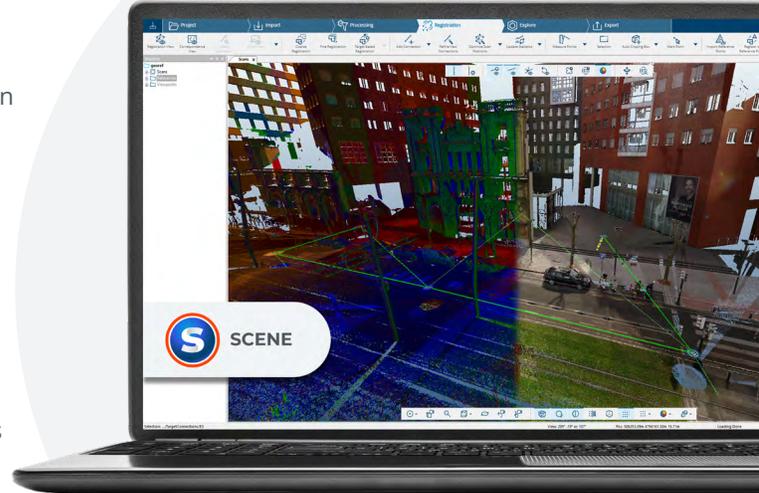
Typically, registration algorithms are “black boxes” that cannot be easily influenced by the user. This is especially true in larger and more complex scan projects. Interactive Registration allows for user control for improving results.

Easy Data Registration

SCENE features professional and automatic workflows for Target-based, Cloud-to-Cloud and Hybrid scan registration. The powerful on-site registration functionality allows complete scan project processing and registration directly on-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.

Benefits

- Minimize project costs by utilizing automated data processing / registration workflows, fast / versatile scan data export, and a simplified software user interface
- Recreate project results using advanced workflow driven validation tools
- Intuitive interactive registration provides an improved visual representation of scan connections that can be easily adjusted to improve registration and give more control to the user
- Leave the project site with confidence through the power of real time, on-site registration and the ability to retake photos
- Best user experience with FARO scanning devices and FARO application specific software tools
- 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
- Intuitive visual feedback for judging automatic registration results
- Accuracy improvements for cloud-to-cloud projects through the integration of survey-controlled reference points, which limits error propagation and drift for large projects

Processing Scan Data

- Automatic search for artificial (spheres, checkerboards, coded markers) or natural references (corner points, planes etc.)
- Diverse registration methods to place the scans automatically by detected targets, cloud-to-cloud or top view based
- Improved registration results through intelligent fine registration and additive verification
- Automatic coloring of the scans with the high-resolution color photographs or Laser-HDR color option
- Filters (including “dark points”, and “stray points”), optional Edge Artifact filter for additional noise reduction
- Supports creation of fully textured meshes that can be brought into other applications as color, 3D models
- On-site compensation: verification and adjustment of the scanner’s compensation, available for the new Focus^s devices
- On-site registration: processing and registration of scans during scanning on site, function applies only to FARO Focus^s Series Laser Scanners
- Moving Objects Filter automatically removes unwanted objects from registered scan data that moved through a scene while it was being scanned, such as people or vehicles
- Fast and versatile exporting of scan data as a project, cluster, single scan, or sections of scans into Autodesk[®] RCP/RCS point cloud format

Data Management of Extensive Projects

- Project database with 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)
- Easy geo-referencing for projects which use cloud-to-cloud registration

Data Sharing

- Fully integrates with the SCENE WebShare Cloud service
- Utilize the SCENE 2go App from a USB flash drive to share projects with clients for data exploration

Import & Export

- Optimized to work with Focus Premium and Freestyle data
- Control points for geo-referencing (.cor, .csv)
- Scan points (FARO Scan, FARO Cloud, ASTM E57, .txt, .xyz, .xyb, .pts, .ptx, .ptz, .pod)
- 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))



Project Exploration

- The ability to take measurements
- Documentation objects to add notes and attach external documents via hyperlink technology
- Extended capabilities using FARO or 3rd party app
- Confidence and ease of use on any project size

Views

- Closed 3D surfaces rendering with full-color detail
- 3D View, Planar View & Quick View
- Virtual Reality View with exploration tools
- Stereoscopic visualization with suitable graphics board and 3D capable device
- Correspondence view to control scan placement on the screen
- Multiple clipping boxes to control the visible parts of point clouds in 3D View
- Overview Map

Technical Requirements (Recommended)	
Hardware	Intel Core i7/i9/Xeon, 8 physical cores, 64 GB RAM , OpenGL 4.3, 1 TB Solid State Drive + Regular HDD, screen resolution 1920 x 1080 px
Graphics Card	Dedicated graphics card, OpenGL 4.3, DirectX 11 Feature Level 11.0 or higher, at least 8 GB Memory; For Stereo Rendering and Viewing: NVIDIA Quadro; For VR Rendering and Viewing: NVIDIA 1080GTX or similar, Supported VR 3D Headsets: Oculus Rift S or HTC Vive with Touch Controllers, StreamVR
Operating System	64-bit Windows [®] 10
Accessories	3D Connexion Space Mouse with latest drivers (settings described in the User Manual), Network card is required for licensing SCENE

For on-site registration (with scan resolution of 1/5, Quality 3, colorization and ~ 40 scans in a row) the following system specifications are sufficient: Processor: I7 8665U, Graphics: Intel UHD 620 Graphics, RAM: 16GB, Hard drive: SSD 500GB, Screen: 12" Full HD anti glare, OS: Windows[®] 10 Pro 64-Bit

Local operations around the world. Go to [FARO.com](https://www.faro.com) to learn more.