

FARO®

Orbis™ Mobile Scanner

**Fast,
Accurate
& Smart**
Advanced
3D Mobile
Scanning
Unleashed

Mobile and
Quality Static
Scans in One
Device



FARO® Orbis™: Combining Speed, Versatility, and Accuracy Through One Quality Mobile and Static Scanning Solution

Introducing FARO Orbis™ — the advanced mobile scanning solution for a faster and smarter understanding of public safety environments. Orbis empowers you to streamline project workflows, minimize human error, and maximize efficient data collection. Embrace the future of public safety data acquisition with this state-of-the-art mobile and static scanning solution.



Unlocking unrivaled efficiency and speed for your critical data collection needs.

Fast Mobile Scans and Quality Static Scans in One Device



FARO Orbis solves the trade-off between speed and accuracy in an all-encompassing mobile scanning solution. Featuring the latest scanning technology and integrated with FARO Flash, Orbis provides high-class precision and scan density. Capture dynamic scans by walking through buildings, event sites, crash scenes, or crime scenes with Orbis or attach the scanner to the included monopod accessory for employing stationary scans of key areas in just 15 seconds.

10X Faster Than Other Surveying Methods



10x faster than traditional scene documentation methods, mobile scanning enables operators to capture entire locations at the speed of the operator. The increased speed of capture saves time, prevents scene/site disruption, enhances user safety, allows for real-time decision making, and helps clear scenes faster.

Turn It on and Scan



Orbis doesn't require intensive training or certification to use — simply power it on and start scanning. The compact design of Orbis, combined with real time data feedback and advanced software automations, allows for effortless capture of high-quality data. It simplifies complex scene documentation and mapping tasks, allowing for efficient data collection in public safety jobs such as security planning, crash scene reconstruction, and crime investigation.

Essential for Ongoing Safety and Planning



With faster data capture, documenting crime scenes, crash scenes, buildings, event locations, or public spaces with Orbis streamlines the process of repeat scanning for tracking changes over time. This is crucial for tasks such as preparing for major events, updating safety plans after renovations, and auditing evacuation routes, leading to a significant reduction in downtime. The integration of optional cloud processing and 4D data comparison within FARO Sphere XG makes data analysis and sharing seamlessly efficient. For those who prefer to avoid cloud data storage, offline processing is also available.

Delivering Best-in-class SLAM



Dynamic innovation and direct customer input from real-world applications has culminated in the cutting-edge SLAM (Simultaneous Localization and Mapping) algorithm that drives Orbis today. Powered by our proprietary SLAM, Orbis provides best-in-class reliability, giving you the confidence to capture the most challenging locations or scenes.

Versatile Processing Options to Suit All Needs



FARO offers a complete portfolio of cloud and desktop software to process your data. Provide stakeholders with point cloud information with optional cloud-based processing and storage in FARO Sphere XG. Alternatively, keep your data offline with local processing in FARO Connect. For unparalleled data quality and global accuracy, register your Flash scans using FARO SCENE and its interactive registration capabilities, mirroring the control of a terrestrial laser scanner.



Easy to Use Software Designed with Busy Departments in Mind

Innovative and easy to use software packages can make the difference between good and bad data outputs. FARO collaborates with industry professionals to optimize its software solutions, ensuring expert understanding and delivering efficient, effective workflows. We provide a complete portfolio of cloud and desktop software for users to get the best results from their 3D data.



FARO Zone 3D Software

When an incident occurs, investigators and forensic experts must establish the facts and thoroughly document the case. This process is critical for crash reconstruction, crime and fire investigation, and for creating courtroom presentations. FARO Zone 3D Pro and Zone 3D Expert make it easy to perform accurate analysis of an event and produce detailed visuals, such as precise 2D and 3D diagrams, compelling animations, and courtroom — ready reports.

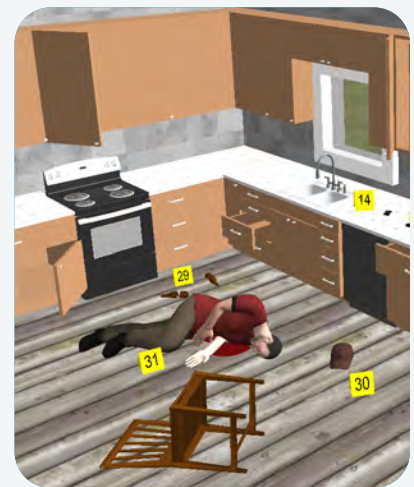
Fully Analyze Crash & Crime Scenes ▶

Analyze crime scenes using Zone’s independently validated tools for bullet trajectory and blood spatter pattern analysis. Crash analysis tools within Zone 3D Expert apply accepted formulas to perform crash analysis, calculate speed from skid marks, critical speed yaw, momentum, and more.



Create Compelling Presentations ◀

3D walk-throughs and fly-throughs help viewers gain a spatial understanding of the scene that is much more compelling than a 2D diagram.



Generate Accurate Diagrams ▶

Create 2D and 3D diagrams that precisely represent all details of a building or scene with pre-drawn models, evidence placards, dimensions, posed bodies, and links to photographs and reports. Photorealistic scenes display multiple light sources, high-resolution material textures, fog, rain, and snow.



The Most Data-Agnostic Version of Zone Yet ▼

Zone 3D Pro and Zone 3D Expert Software are the most data-agnostic versions of Zone yet — making the most comprehensive scene documentation software on the market even better.



Crash Collision, Path, & Damage Prediction ◀

FARO Zone 3D Expert now features MassZone Collision Prediction, which lets investigators create animations predicting crashes and their effects, such as the paths of vehicles, tire marks, and damage.



Discover the

**Power
of FARO**



Connect

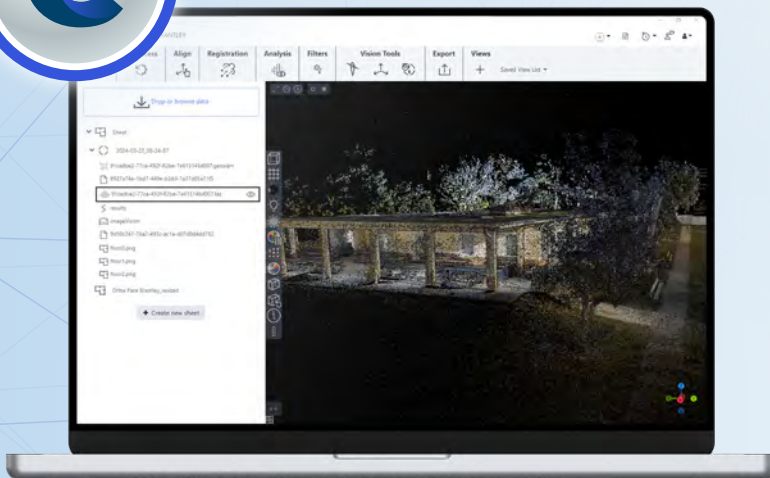
Discover the power of FARO Connect, your ultimate desktop solution for simple management of point cloud and image data. Leverage our industry-leading SLAM algorithm to process and visualize point clouds and elevate your workflows through automation tools that streamline tasks.

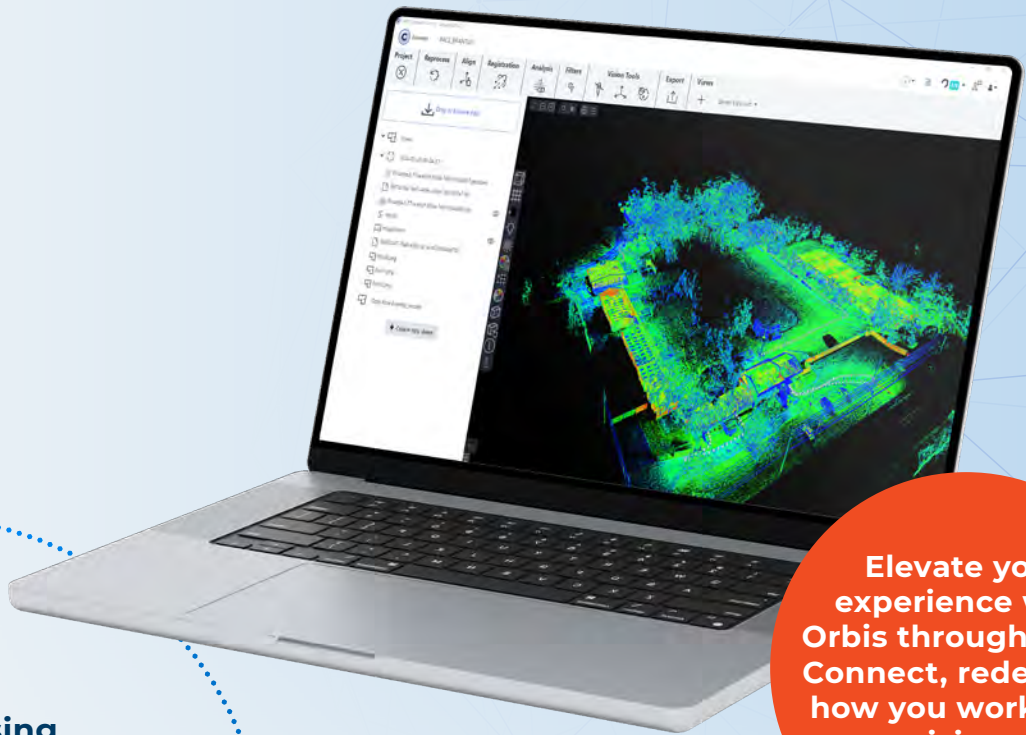
Automatic Point Cloud Colorization

Use the integrated camera on Orbis to capture panoramic images and achieve RGB colorization of your point cloud data within Connect. With a single automated workflow, Connect will process your data, create panoramic photos, position the images over your point cloud and colorize the dataset.

Automatic Georeferencing

Incorporate reflective targets or control points into your workflow to automatically georeference point cloud data within FARO Connect. The software automatically detects surveyed reflective targets at known control points and uses the target positions to localize the point cloud into a real-world location. Alternatively, place the scanner on a known control point for a brief period and the information will be stored within the point cloud.





Elevate your experience with Orbis through FARO Connect, redefining how you work with precision and efficiency.

Data Processing and Ownership

Local processing in FARO Connect equals repeatable processing as often as you need, with complete ownership of the data. Alternatively, you can upload point cloud data to the optional FARO Sphere XG Cloud service for more synchronous collaboration with other stakeholders. Flexible processing and storage, without third-party ownership for secure and transparent cooperation.

Automatic Data Filtering

Connect has a range of automatic filtering tools to help you get the best results from your point cloud data. These include outlier removal, surface noise reduction and removal of transient points to improve the final data output. The filtering tools are within Connect and can be applied automatically to any dataset.



Stream

Our advanced mobile application, FARO Stream integrates with Orbis to enhance and optimize your scanning experience.



Field Annotations

Unlock new levels of efficiency by making field annotation and notes within the data.



Real Time Feedback

Gain immediate insights with real time feedback of your scan to ensure nothing is missed.



Upload Data Directly to FARO Sphere XG

Send your data from Stream to the optional FARO Sphere XG cloud-based service for immediate processing and cloud storage, while you're still on scene.





Integrate the FARO Sphere XG Digital Reality platform with your workflow, enabling effortless scan uploads to the cloud environment. Conveniently access, view, measure, share, and collaborate with stakeholders from anywhere, presenting a unified perspective of the evidence, the building, the public space, or the event location. Explore and compare all point clouds and 360° photo captures, regardless of the type of capture device, FARO or otherwise.

Rapid Data Collection for crime scenes, crash scenes, buildings, and event spaces

Step into the future of public safety data collection with Orbis. View the remarkable evolution as mobile LiDAR technology reshapes quick, safe, and accurate data collection. Embrace streamlined workflows and real-time data integration, elevating efficiency and collaboration.

Applications Across Public Safety Scenarios:

- **Pre-Incident Planning:** Documenting buildings like schools or stadiums for pre-incident safety planning.
- **Event Security Planning:** Mapping parade routes or street festivals with Orbis mounted to vehicles or by simply walking the route.
- **Crash Reconstruction:** Quickly scanning large, multi-vehicle crashes on roadways.
- **Large-Scale Crime Scene Documentation:** Recording and recovering evidence quickly and safely. Orbis excels for documenting large-scale crime scenes, such as mass casualty events or those that span multiple city blocks.
- **Police Tactical Units:** Conducting detailed scans of tactical sites for planning and executing operations and providing accurate 3D models for post-operation analysis and training simulations.
- **Fire Departments:** Creating accurate 3D models for fire safety assessments, pre-incident planning, and post-fire analysis, as well as providing detailed simulations for training and realistic emergency drills.

Streamline
Project Workflows,
Minimize Human
Error & Maximize
Productivity



Accurately **Visualize Any Scene** or **Building** in 3D

Witness a seismic shift in efficiency, safety, and accuracy as Orbis revolutionizes public safety data collection.

Simply put, Orbis combines the speed of a mobile scanner with the accuracy capabilities of a terrestrial scanner. Imagine capturing detailed 3D data of any scene with lightning-fast efficiency at the push of a button, empowering you to gather the critical data quickly and swiftly.

Turn It on and Scan

Orbis doesn't require intensive training or certification to use — simply power it on and start scanning.

Speed of Data Collection

Gather data at walking speed, 10 times faster than with a terrestrial laser scanner (TLS).

Flash Technology™ Scans

Achieve 2mm accuracy in the areas where you need the extra detail.

Versatile Deployment

Walk or drive the scene with Orbis, ensuring adaptability to various environments.

Seamless Integration

Process data effortlessly in FARO Connect and create 2D or 3D diagrams with FARO Zone Software for comprehensive analysis.



Specifications

System Overview

FARO Orbis	Mobile scanner powered by GeoSLAM technology offering mobile and stationary Flash scanning in one device
FARO Stream	Mobile app for field operation of FARO Orbis and FARO Focus Laser Scanner
FARO Connect	Desktop processing software for FARO Orbis and legacy GeoSLAM mobile scanners
FARO Scene	Desktop registration software for all 3D reality capture data
FARO Sphere XG	Cloud-based platform for all reality capture data including FARO Orbis

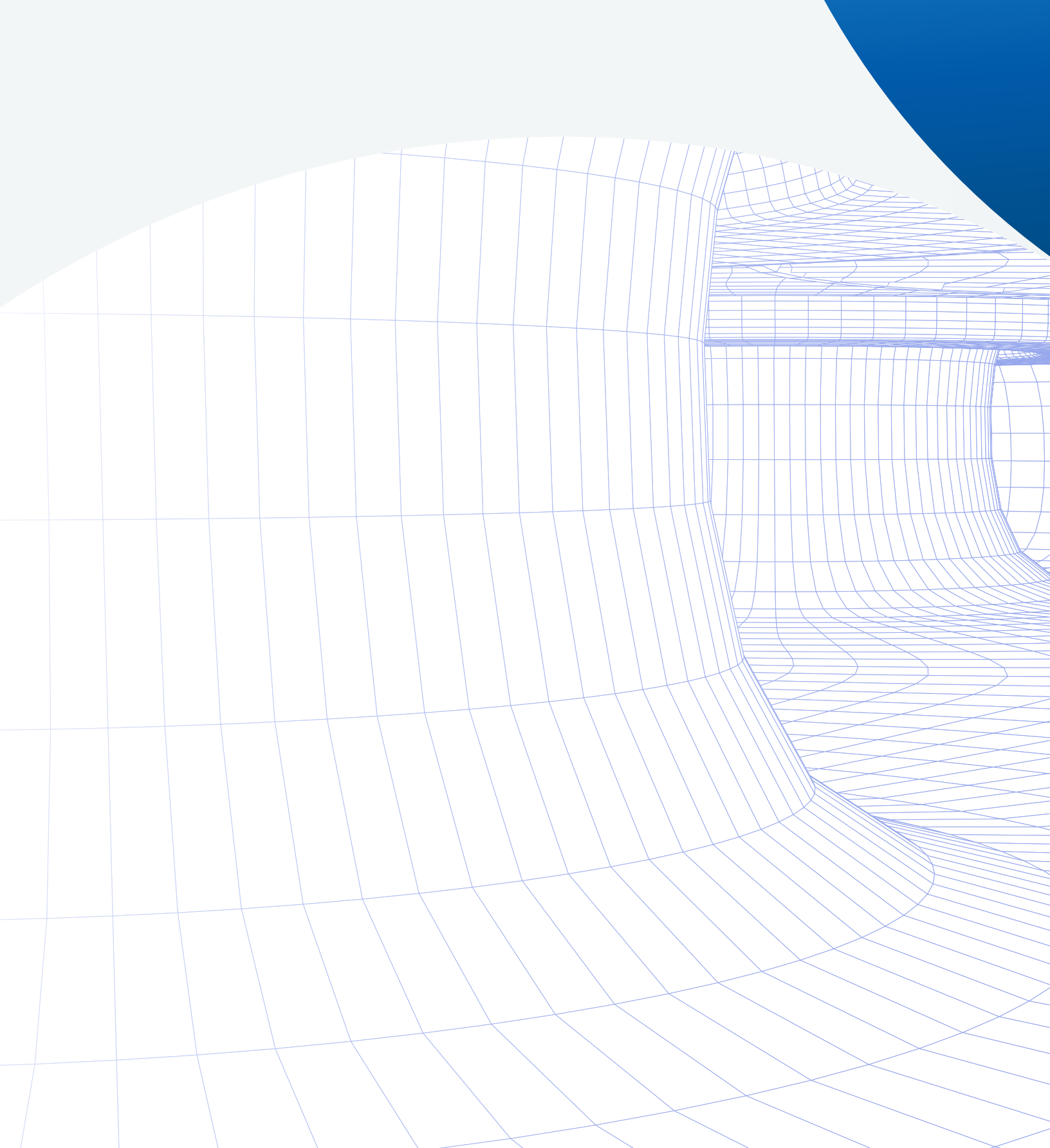
Performance

General	
Range	120m
Points Per Second	640,000
Field of View	360° x 290°
No. of LIDAR channels	32
Camera	Full 360° image of 8M pixels captured every second
Mobile Scanning	
Precision ¹	5mm
Trajectory & Mapping	Robust SLAM powered by GeoSLAM technology
Settings	Automatic Standard and Preset Processing Environments
Stationary Flash Scanning	
Precision ¹	2mm
Duration	15 sec. including color
Resolution	19M points (13mm @ 10m)
Registration	Real Time and Fully Automatic with GeoSLAM technology
General	
Environment	Indoor and Outdoor
Laser Class ²	Class 1, Eye Safe
Weight	Scanner: 2.10kg, Datalogger: 0.95kg, Battery: 0.55kg
Transport Case Dimensions	500mm x 625mm x 250mm
Operating Temperature	0° to +40°C
Manufacturer Warranty	1 Year

Operation

Stand-alone Operation	One button to start/stop data capture; One button to capture Flash scans
Smartphone Operation	FARO Stream app (for iOS and Android): scanner control, real-time data visualization, and direct sync to cloud processing with FARO Sphere XG
Control Points Capture	Stop-and-Go, checkerboard, reflective, and spherical targets for alignment and/or georeferencing
Advanced Registration	When desired, register multiple mobile, Flash and/or FARO Focus scans
Configuration	<ul style="list-style-type: none"> Handheld with Datalogger on Shoulder Strap Monopod with Scanner and Datalogger mounted together Accessories available: Car Mount, Backpack, Cradle
Scanner Orientation	Can be used in any orientation: upright, upside down, sideways
Battery Duration	Typical 3 hours
Internal Storage	512 GB, up to 50 hours of continuous data capture
Data Transfer	WiFi, RJ45 or directly with USB stick
Data/Processing	
Data	Point clouds with Intensity and Color, 360° Images, Trajectory
Raw Mobile Data Size	350MB/min uncompressed
Flash Scan Data Size	125MB
Desktop Processing	FARO Connect for Mobile and Flash Scans, FARO Scene for Advanced Registration
Cloud Processing	Fully automated with FARO Sphere XG
Output	Mobile scan: E57, LAS, LAZ, PLY, TXT - Flash scan: E57

¹ Given as one sigma | ² In accordance with IEC EN60825-1 | Specifications are subject to change without prior notice



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

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