



FARO Laser Scanner **Focus**^{3D}

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The World's Most Advanced 3D Laser Scanner

The new FARO Laser Scanner Focus^{3D} combined with the redesigned SCENE software offers you the fastest and most easy-to-use phase shift laser scanning solution in the marketplace.

The Focus^{3D}, utilizing non-contact laser technology, generates highly detailed virtual three-dimensional images of complex environments and large scale geometries in a matter of minutes.

The resulting 3D image of the Focus^{3D} is a collaboration of millions of 3D measurements providing an accurate digital documentation of as-built conditions. Scanning at the blistering rate of 976,000 points per second with a reach of 120m, the Focus^{3D} offers the most efficient method for recreating the real world and defining it within a virtual space.

Traditional measuring methods such as tape measures, laser range finders, digital cameras and total stations require more effort and risk to ensure a pure data capture. The Laser Scanner Focus^{3D} provides exact measurements in three dimensions right at your fingertip.



A Revolution in 3D Laser Scanning

One of the brightest spots in geospatial technologies is the continuous development of 3D laser scanning. The world as we know it today is evolving from 2D to 3D. Industries and users who traditionally work with two-dimensional plans and schematic diagrams are increasingly discovering the advantages of three-dimensional planning and documentation tools. With the continuous advancements in 3D software programs, the FARO Focus^{3D} provides instantaneous high resolution imagery with extreme clarity and full color.

Whether it is laser scanning for accident reconstruction, as-built documentation, crime scene & forensic investigation, inspection/reverse engineering, power & process, surveying or tunnel & mining – 3D documentation by means of laser scanners offers significant advantages compared with any conventional measuring method. With suitable plug-ins the 3D image can be directly imported into a wide range of software applications.

With the Focus^{3D}, FARO now offers a revolutionary laser scanner that can be simply and intuitively operated using its fully integrated touch-screen.

Furthermore, it is significantly more compact and more cost-effective than previous models. The Focus^{3D} thus offers everything you might expect from a professional 3D laser scanner – with a previously unknown level of simplicity.

**Small and compact**

The Focus^{3D} is the smallest and most compact laser scanner ever built

Intuitive touch-screen display

With its brilliant color display for intuitive touch-operation, FARO sets a completely new standard in user friendliness

Integrated color camera

Photo-realistic 3D scans with up to 70 megapixel of parallax-free color overlay

Storage on SD card

SD cards allow you to securely manage and transfer scan data to your PC in seconds

Data processing and interfaces

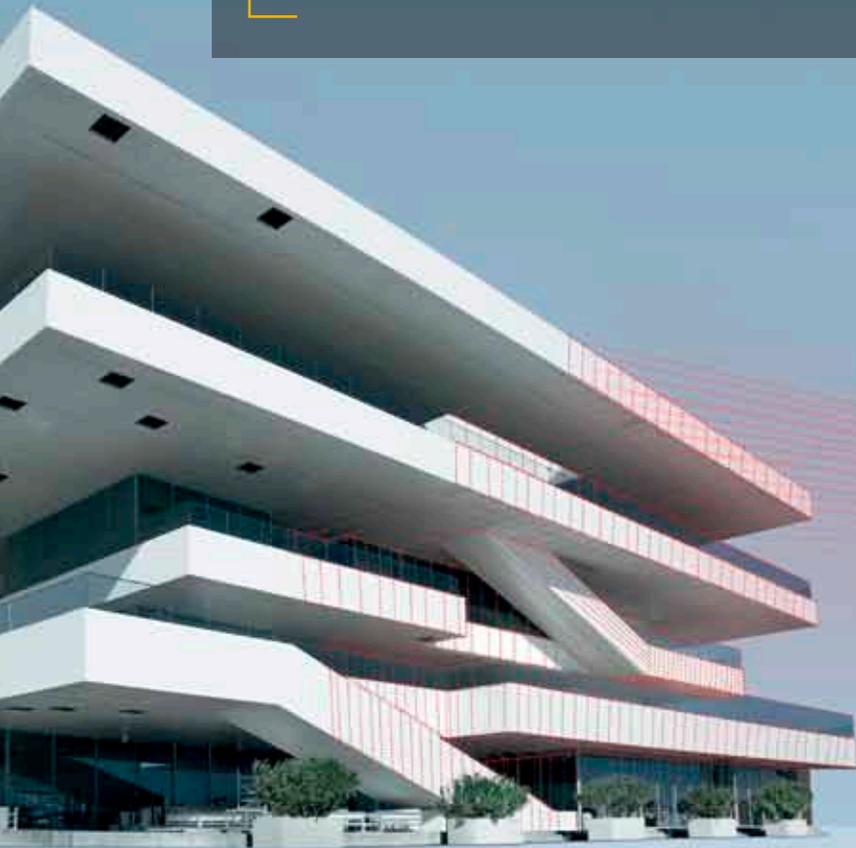
Data is automatically processed using auto-registration and transferred to industry standard softwares

Built-in powerful battery

Enables up to five hours operation without a main power supply, charges quickly and can be charged while in operation

“The FARO Laser Scanner was chosen to perform these scans because of its ability to scan from a significant distance and produce accurate data.”

Penny Anstey, President - SightLine LLC



“With the revolutionary Focus^{3D}, FARO provides architects, civil engineers and plant designers with an efficient tool for rapid, seamless and precise documentation of the current status of buildings, plants and construction sites of every kind. The Focus^{3D} offers all the functionalities required by a professional user with a previously unknown level of usability and simplicity.”

Jay Freeland, CEO - FARO Technologies

One Laser Scanner – A Multitude of Features

The FARO Laser Scanner Focus^{3D} is the most innovative phase shift laser scanner ever released. Its new advancements in design and functionality provide a longer scanning range, faster scanning speeds and higher optimization for exceptional image quality in indoor and outdoor environments. Despite all of these advancements in technology, the Focus^{3D} is still easy enough for anyone to use.

The Focus^{3D} is the smallest and lightest laser scanner ever built. It is four times lighter and five times smaller than any previous laser scanner model. Since the Focus^{3D} is entirely self-contained, there is no need for additional devices, cables, or laptops, making it completely mobile in any environment.

With an intuitive touch-screen display, the user can easily set up parameters and scanning functions for any application. The Focus^{3D} makes laser scanning as easy as using a digital camera.

The Focus^{3D} deploys an integrated color camera with automatic and parallax-free color overlay for photo-realistic 3D scans. Its integrated lithium-ion high-performance battery provides up to five hours of battery life and can be charged during operation. Furthermore, all scans are stored on a SD card enabling easy and secure data transfer to any computer.

The Focus^{3D} is compatible with many common software applications. The flexible interfaces of SCENE, the scan processing software included with the Focus^{3D}, enable connection to AutoCAD Architecture and Plant3D as well as many other CAD applications such as ArchiCAD®, AVEVA®, GeoMagic®, Intergraph®, Microstation®, Nemetschek®, PDMS®, PDS®, PolyWorks®, Rapidform®, REVIT® and Rhino®.



Real World Applications — Accident Reconstruction

Accident Reconstruction is the determination of the sequence of events which resulted in an accident or failure through analysis, observation and study.

Applying the Laser Scanner Focus^{3D} will allow you to:

- Gather vast amounts of data quickly and bring the virtual scene back to the office
- Easily share data with clients over the web with one-click publishing
- Perform virtual surveying to support legacy workflows
- Create true-to-life visual recreations
- Analyze line of sight and environmental factors from various vantage points
- Compare scan data with OEM CAD files for vehicle deformation analysis
- Save time and produce superior deliverables

Industries Served: Accident Investigation, Biomechanics Research, Fire Investigation, Forensic Engineering, Law Enforcement







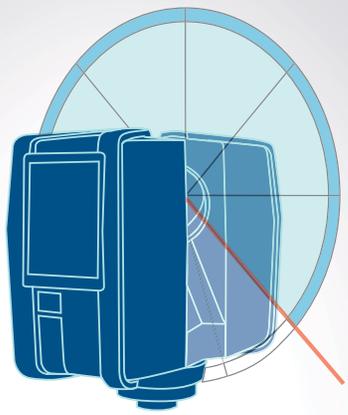
Real World Applications — As-Built Documentation

As-Built Documentation is the process of describing an object or structure as it appears in its current state in the real world through the use of manual or digital documentation.

Applying the Laser Scanner Focus^{3D} will allow you to:

- Bring the facility or object back to the office to avoid return site trips
- Create conceptual fly through videos blending existing and proposed structures to “sell” projects
- Extract as much or little information as you need, when you need it
- Create accurate 2D and 3D documentation for architects or engineers to facilitate renovations, additions, or repurposing
- Create a Building Information Model (BIM) for contractor collaboration, energy studies, facility management, and more
- Monitor construction for accuracy and create “close out” as-built documentation after each trade or phase is finished
- Perform off-site pre-fabrication of building components
- Monitor structures over time for attrition and settling
- Save time and produce superior deliverables

Industries Served: Architecture, Civil Engineering, Construction, Facility Management, Heritage, Real Estate



“We knew how fast the FARO Laser Scanner worked and its extreme detail of the images that it produced. It seemed like a natural fit for reconstructing crime or accident scenes.”

Doug Ursel, Operations Manager – Pine Fall Technical Services

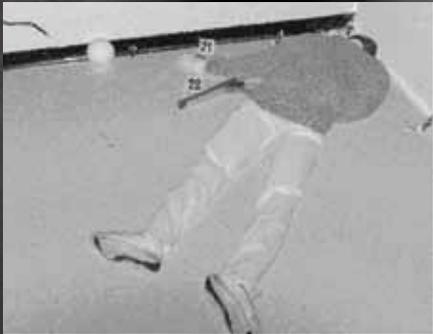
Real World Applications — Crime Scene & Forensic

Crime Scene & Forensic Investigation involves the use of scientific methods, physical evidence, deductive reasoning, and their inter-relationships to gain explicit knowledge of the series of events that surround the crime.

Applying the Laser Scanner Focus^{3D} will allow you to:

- Quickly and thoroughly document a crime scene in color
- Virtually visit a crime scene again and again to verify witness testimony or evaluate hypotheses
- Work with the diagramming tools you are already familiar with
- Easily create annotated fly-through videos for court presentation
- Analyze line of sight, blood spatter, bullet trajectories, and offender’s height (from video surveillance)
- Return scene to civilian use quickly
- Save time and produce superior deliverables

Industries Served: Crime Investigation, Insurance, Law Enforcement, Legal, Military





“Our new high-speed laser scanning capabilities gives us an efficient, cost-effective process for recording survey information in a powerful, previously unexploited format. BMT’s customers have always appreciated our innovative, workable solutions and the FARO Laser Scanner certainly helps us to meet their budgets and needs.”

Steve Carter, Senior Engineer - BMT Defense Services



Real World Applications — Inspection/Reverse Engineering

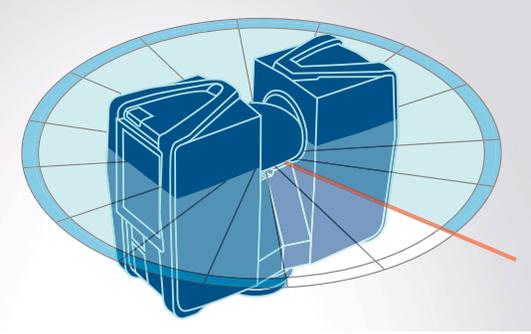
Inspection is the process of examining a part to determine if it conforms to outlined specifications during or after the production cycle.

Reverse Engineering is the process of analyzing details on design, construction and operation to produce a copy or improved version of a product.

Applying the Laser Scanner Focus^{3D} will allow you to:

- Generate precise 3D CAD documentation of complex machine components, molds, patterns, and fixtures
- Reverse engineer copies of large scale products and components when there is no existing CAD data available
- Quickly measure large, organic surfaces for inspection
- Measure red-hot objects at a safe distance, avoiding expensive cool down cycles
- Integrate the scanner with automation equipment and routines
- Extend time between relining of furnaces and ore crushers
- Pre-fabricate components, scan, and fit-up virtually in CAD
- Save time and produce superior deliverables

Industries Served: Aerospace, Automotive, Boats & Yachts, Defense, Foundry, General Manufacturing, Ship-Building



Real World Applications — Power & Process

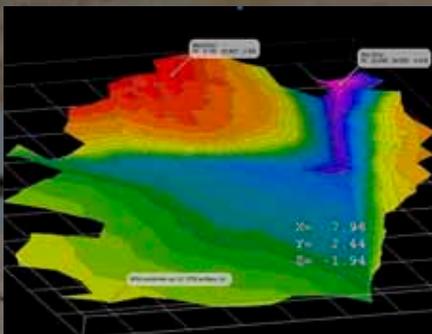
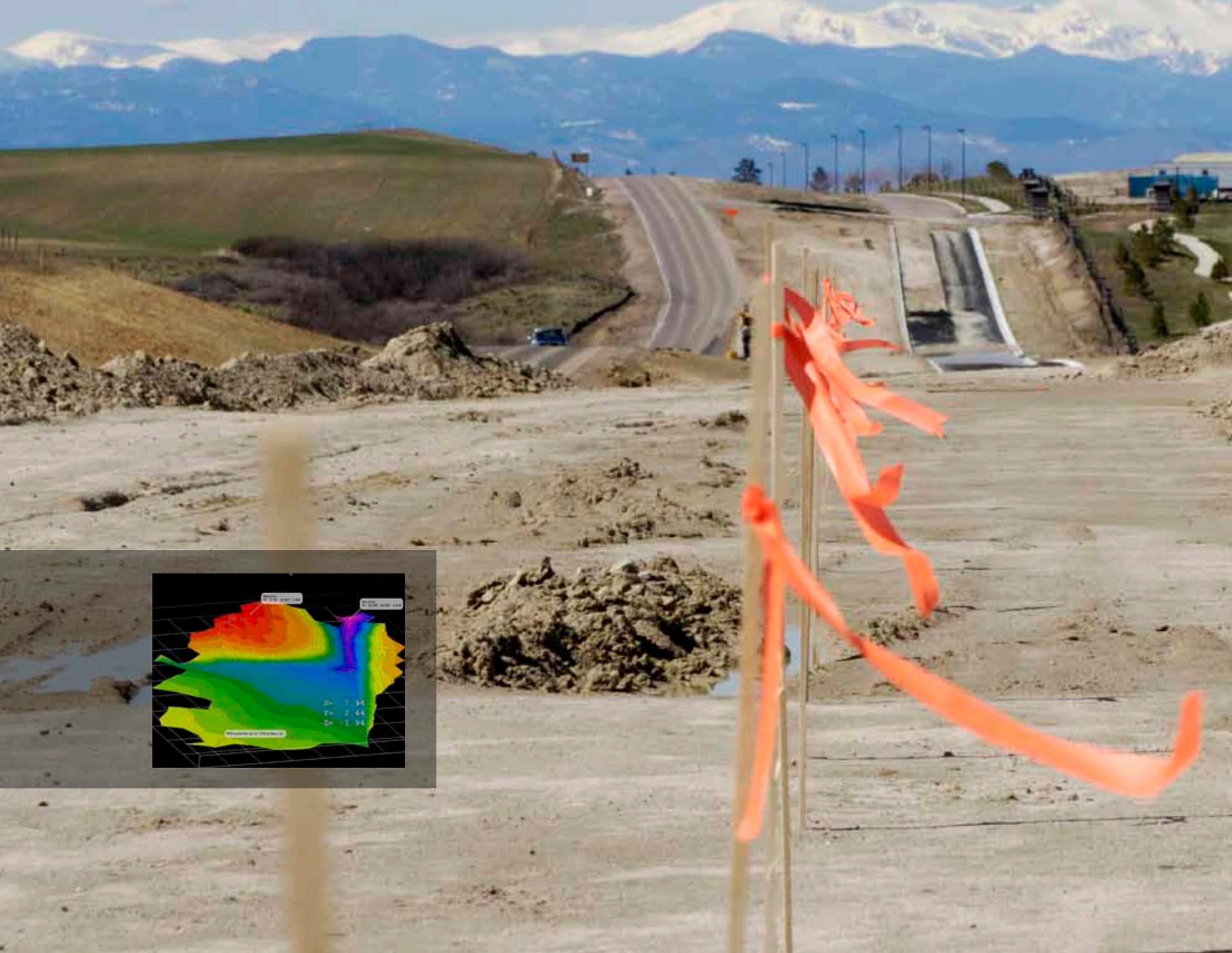
Power and Process is the function of documenting complex machinery, electrical components, piping, and associated equipment.

Applying the Laser Scanner Focus^{3D} will allow you to:

- Accurately document as-built conditions to support engineering, even in very tight or complex spaces
- Reduce return visits to the site
- Simulate component replacement in 3D to minimize production downtime and avoid errors
- Perform nuclear walk-downs
- Identify piping tie-in points and clearances
- Perform clash detection between new designs and existing conditions
- Improve safety by remotely measuring difficult or dangerous areas, such as substations or hot zones
- Validate installations are to plan
- Provide physical data for asset management
- Monitor structural deflection
- Save time and produce superior deliverables

Industries Served: Chemical, Food Processing, Energy, Mechanical Engineering, Petrochemical







Real World Applications — Surveying

Surveying is the technique and science of accurately determining the terrestrial or three-dimensional position of points and the distances and angles between them.

Applying the Laser Scanner Focus^{3D} will allow you to:

- Create topographical maps
- Generate accurate 2D CAD plan views, elevations, and section profiles
- Create 3D models
- Measure distances, areas, and volumes
- Map assets and check for clearance
- Detect construction deficiencies and deformations
- Produce navigation models for construction planning and tie-in identification
- Perform curb and gutter and field-to-finish work in the comfort of the office through virtual surveying
- Save time and produce superior deliverables

Industries Served: Architecture, Civil Engineering, Construction, Heritage



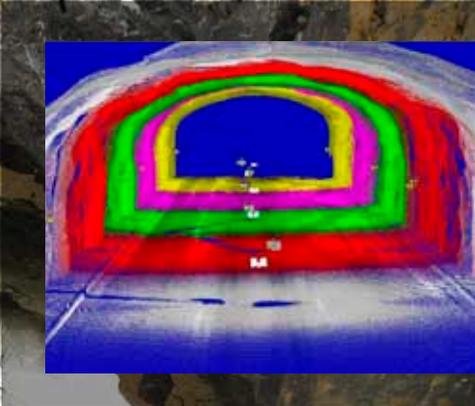
Real World Applications — Tunnel & Mining

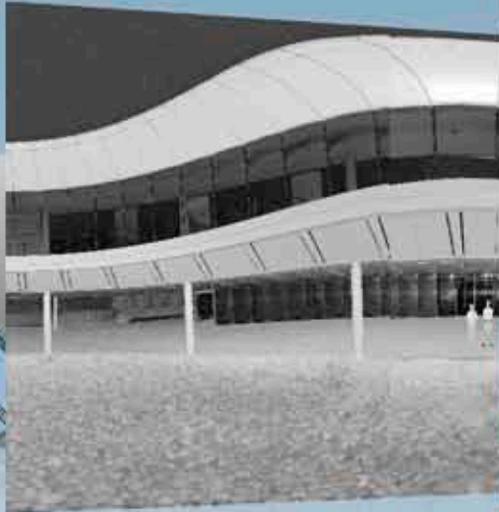
Tunnel and Mining is the process of excavating large amounts of earth to either mine resources or construct an underground passage for the transportation of vehicles, rail or water.

Applying the Laser Scanner Focus^{3D} will allow you to:

- Capture the real tunnel profile and centerline for comparison with theoretical design
- Evaluate tunnel capacity for new demands
- Measure volume of extracted material
- Calculate tunnel grouting, shotcrete thickness, or reinforcements
- Gather geometric information of the cavity such as length, volume and shape
- Perform geological mapping in color
- Control machinery for accurate materials removal
- Save time and produce superior deliverables

Industries Served: Construction, Energy, Infrastructure/DOT, Mining







Redesigned SCENE Software

With the redesigned SCENE software, the time needed for post processing is dramatically minimized. Target recognition, target naming and scan registration are now automated. Therefore, the user only needs to check the final output of the automatic registration process and in many cases has the project complete upon return. In addition, the Focus^{3D} 120/20 laser scanners and SCENE now offer automatic 100% parallax-free, high-resolution, full quality color overlays.

SCENE Software features:

- Fully automatic scan placement with or without reference targets
- Automatic digital level compensation to save up to 50% of targets
- Parallax-free automatic color overlay
- Cluster registration and geo-referencing supported
- Automatic generation of WebShare database
- Available for 64-bit Windows operating systems
- Improved color handling for Photon and Focus^{3D} scanners



FARO WebShare

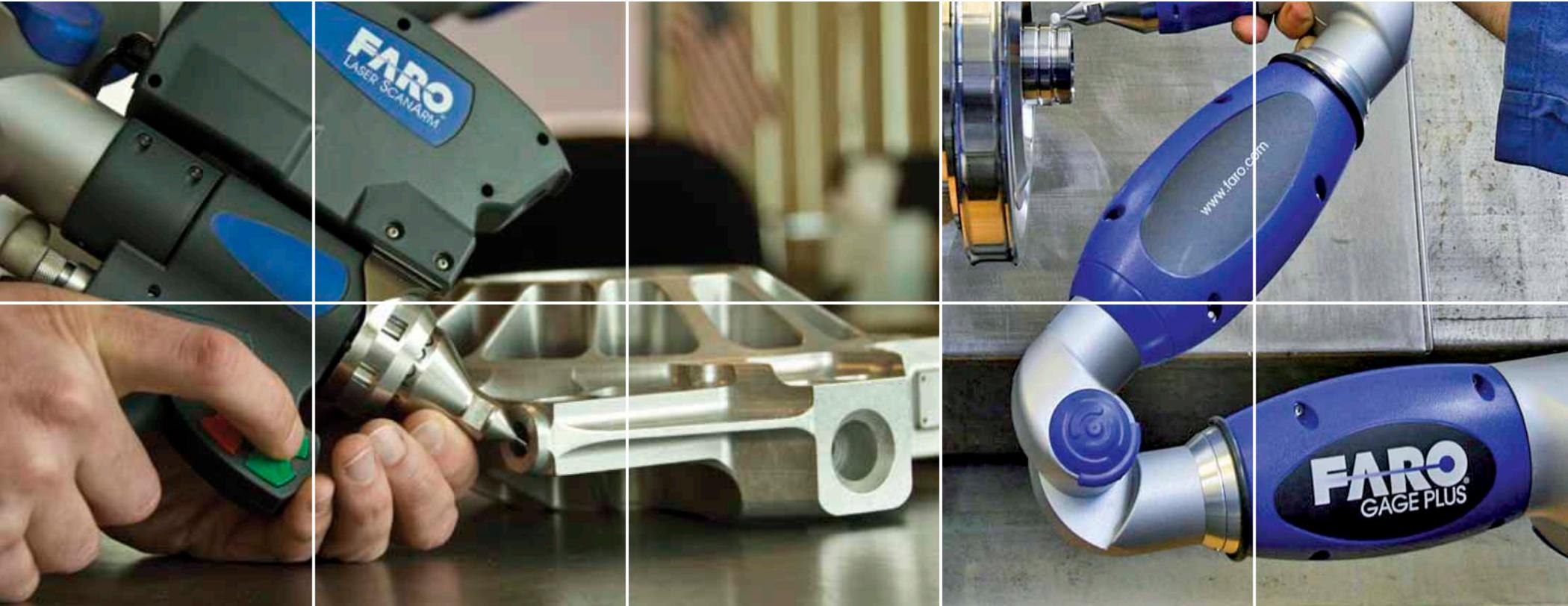
With the new SCENE software, the time needed for post processing is dramatically minimized.

The new WebShare functionality is natively built into the SCENE software and requires no additional software to publish the scan data on the web. Scanned 3D images can now be put securely (password protected) on the Internet through password protection, thus enabling industries such as architecture, engineering and law enforcement to share scan information with engineers, owners, operators and clients without the need of additional software.

Authorized users can view and download FARO laser scans of extensive projects using any standard web browser from anywhere in the world. FARO's QuickView offers the user a three-dimensional 360° photographic perspective of the FARO laser scan. Other advanced features of WebShare include:

- Overview map enables users to quickly find scan positions
- Transition points included in each scan makes it easy to switch from one scan to the next
- Authorized users can download scans for further analyzing using the free SCENE LT software
- WebShare is included with SCENE and is completely free







About FARO

FARO is a global technology company that develops portable 3D measurement instruments for inspection, imaging, reverse engineering, and surveying. Our focus is on simplifying our customers' work with tools that empower them to dramatically reduce their on-site measuring time and lower their overall costs.

As the pioneer in portable computer-aided measurement, we apply our unique knowledge and understanding of our clients' business goals to help them succeed. We empower our clients to exceed the demands placed upon them by applying the latest advances in technology to make FARO's industry leading product offerings more accurate, reliable, and easier to use.

Our commitment to our customers extends well beyond product performance – with FARO you have 3D measurement peace of mind. Each FARO team member is completely focused on simplifying our customers' work, championing their innovation and ours, so our customers and their businesses can be more prosperous.



“One of the biggest reasons that we keep returning to FARO for solutions is because of the support that has been provided to us over the years. This support has been unsurpassed.”

MAG Cincinnati

The FARO Experience

Your purchase is just the beginning of your partnership with FARO. Our employees are known for building relationships – visiting your facility, getting to know your business, your processes, and providing measurement plans and training to help you get the most out of your FARO system.

FARO operates service and calibration facilities around the world and all are ISO 9001:2001 certified and ISO-17025 laboratory registered to service FARO's products. Each center provides warranty and post-warranty services. At FARO, our goal is to service, inspect, calibrate, and return your equipment within a timely manner.

FARO's training equips you with the knowledge necessary to execute measurements with confidence. From product setup, basic measurements, working with alignments and nominals, to advanced procedures and programming, we offer basic and advanced level classes at a FARO training center, or at your own facility. FARO also has experienced customer service representatives who offer telephone support for equipment or application-related questions.





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