

The FaroArm®
The world's best-selling
measurement arm

FARO



The FaroArm

The measuring arm with boundless possibilities

FARO is the market leader in portable computer-aided measurement systems. FARO measuring arms enable highly precise 3D measurements of both large and small parts in production. They are as accurate as large, expensive fixed-bed coordinate measuring machines (CMM), but are portable and much easier to use. Designed with your input and built with our experience, the Edge represents the most innovative measuring arm of the FaroArm product line. With its built-in touchscreen and on-board operating system, the Edge revolutionises portable metrology by providing stand-alone basic measurement capability. These are just some of the reasons why the FaroArm is the world's best-selling measurement arms.



Versatile

Models: Edge, Prime and Fusion. FARO offers diverse mounting options and accessories tailored to your specific needs. This makes the FaroArm the simplest solution, even for the most difficult measurement tasks.



Cost effective

With performance that rivals large and costly fixed-bed coordinate measuring machines (CMM), scrap and costs can be reduced to a minimum.



Precise

Built-in smart sensors warn against excessive external loads, correct for thermal variations, and detect possible setup problems. They enable highly accurate measurements without the need for air-conditioned rooms thus delivering unmatched consistency of performance and accuracy.



Flexible

The FaroArm's lightweight construction, wireless data transfer capabilities, integrated battery and built-in touchscreen computer* enable laptop-free* basic measurements to be taken wherever you need them.



Simple to use

The FaroArm's outstanding ergonomics assisted by internal counterbalance makes daily work much easier. On-board diagnostics* and easy-to-setup measurement routines* significantly simplify your measurement functions.



Compatible and expandable

With its quick-change handle, the FaroArm allows for seamless and interchangeable accessory integration such as a laser scanning attachment. Large parts can also be measured with the arm in combination with the FARO® Laser Tracker.

The FaroArm

Measure everywhere

The flexibility of the FaroArm enables it to tackle multiple applications under one roof, allowing for quality improvements across all your processes resulting in time and production costs savings.

3



Machine alignment

Positioning of machines, fixtures and parts is crucial for the quality of finished products. The FaroArm can be mounted next to the manufacturing equipment to quickly and repeatedly verify tool alignment.

5



On-machine inspection

During the production process you can measure your parts directly on the machine, without the downtime resulting from tool setup or quality room inspections.

1



Goods inwards inspection

Supplier parts can be inspected directly upon arrival using the FaroArm.

2



Inspection of large parts

Many parts are too large or heavy to be inspected by traditional measurement equipment. The FaroArm can be taken everywhere and be mounted next to or on the part to be measured for fast and accurate results.

4



CAD comparison

Measurements captured with the FaroArm can be compared to nominal CAD data to instantly detect deviations. Soft, deformable and complex shapes can be easily scanned to verify features, 3D surfaces and 2D cross sections.

6



Dimensional inspection

Angles, prismatic features, distances, geometric and positional tolerances are easily checked with the FaroArm and the intuitive user interface of the CAM2 Measure 10 Software.

7



Reverse engineering/prototyping

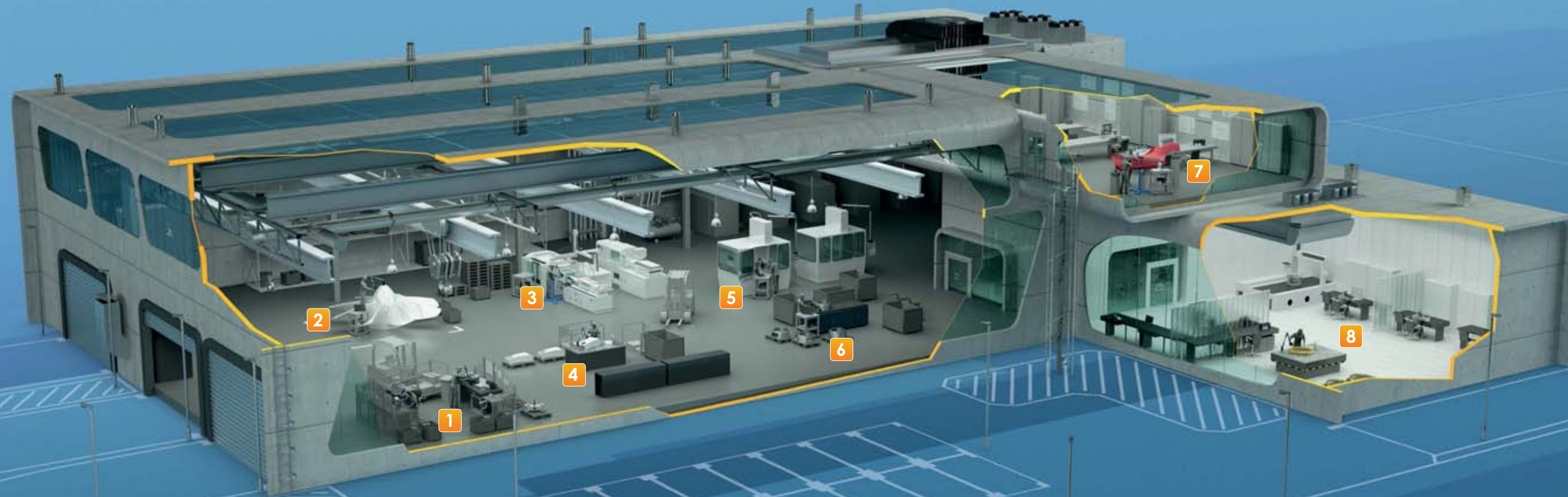
Objects can be quickly scanned, digitized and converted to CAD models for rapid prototyping, as-built documentation or reproduction.

8



Measurement room inspection

Measurement bottlenecks can be reduced by using the FaroArm alongside traditional measurement equipment in environmentally controlled inspection rooms.









The FaroArm Technical data

FARO offers a wide range of options to suit your production needs. The FaroArm is available in three models – with different working volumes. A laser scanning attachment can be easily added to the 7-axes FaroArm turning it into a non-contact measurement solution.

Depending on your accuracy and measuring volume requirements, we provide the best solution for a wide range of applications including: alignment, calibration, inspection, reverse engineering, as-built documentation and CAD-to-part comparison.

Features

-  **For all measurement tasks**
Multiple measuring volumes, quick change handle* and multi-probe capability to tackle all of your inspection tasks
-  **Intuitive**
Built-in touchscreen computer* for laptop-free basic measurements. On-board diagnostics* and easy-to-setup measurement routines*
-  **Intelligent**
Integrated temperature compensation and rugged design
-  **Wireless data transfer**
Connectivity through Bluetooth®, WLAN*, USB, and Ethernet-ready* options



-  **One-hand operation**
Patented internal counterbalancing, improved weight distribution and balance to reduce fatigue
-  **Unrestricted mobility**
Thanks to its low weight composite material construction and integrated battery

Typical applications

3D modelling, alignment, assembly inspection, calibration, mould inspection, geometry checks, on-machine inspection (OMI), part inspection, part-to-CAD comparison, rapid prototyping, retrofitting, reverse engineering, surface inspection, tool setup and positioning.





FARO® Edge

 24µm	Measurement volume (m/ft)	Repeatability** (mm/inch)	Accuracy*** (mm/inch)
		7 axes	7 axes
 7	1.8 (6)	0.024 (0.0009)	±0.034 (±0.0013)
	2.7 (9)	0.029 (0.0011)	±0.041 (±0.0016)
	3.7 (12)	0.064 (0.0025)	±0.091 (±0.0035)






FARO® Prime

 16µm	Measurement volume (m/ft)	Repeatability** (mm/inch)	Accuracy*** (mm/inch)
		6 axes	6 axes
 6	1.2 (4)	0.016 (0.0006)	±0.023 (±0.0009)
	1.8 (6)	0.019 (0.0007)	±0.027 (±0.0011)
	2.4 (8)	0.024 (0.0009)	±0.034 (±0.0013)
	3.0 (10)	0.042 (0.0017)	±0.059 (±0.0023)
	3.7 (12)	0.060 (0.0024)	±0.085 (±0.0033)



FAROArm® Fusion

 36µm	Measurement volume (m/ft)	Repeatability** (mm/inch)	Accuracy*** (mm/inch)
		6 axes****	6 axes****
 6	1.8 (6)	0.036 (0.0014)	±0.051 (±0.0020)
	2.4 (8)	0.043 (0.0017)	±0.061 (±0.0024)
	3.0 (10)	0.074 (0.0029)	±0.104 (±0.0041)
 7	3.7 (12)	0.104 (0.0041)	±0.147 (±0.0058)



*FARO Edge only **Repeatability = Single point articulation performance test. ***Accuracy = Volumetric maximum deviation. ****FAROArm Fusion available also with 7 axes

Performance specifications according to B89.4.22 (According to VDI/VDE 2617 Part 9 on request).

For the latest specifications please visit www.faro.com

The FARO® Edge ScanArm ES

Non-contact measurement and scanning

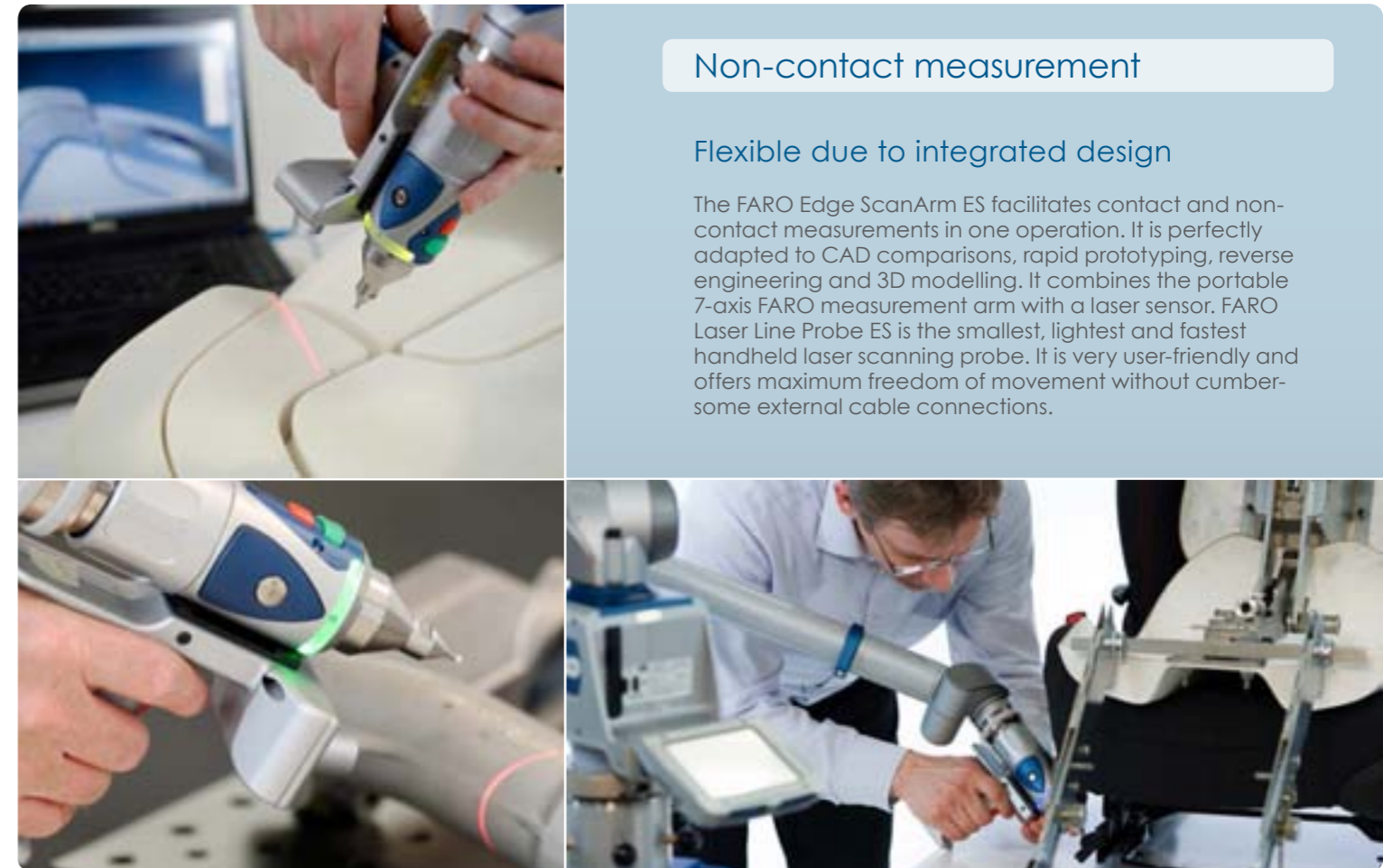
The new FARO Edge ScanArm ES features enhanced scanning technology. Now, materials with challenging optical qualities can be scanned with less effort, allowing the user to scanning jobs in less time. Moreover improved software algorithms allow scanning of materials with high contrasting colours at the same time.






Non-contact measurement

Flexible due to integrated design

The FARO Edge ScanArm ES facilitates contact and non-contact measurements in one operation. It is perfectly adapted to CAD comparisons, rapid prototyping, reverse engineering and 3D modelling. It combines the portable 7-axis FARO measurement arm with a laser sensor. FARO Laser Line Probe ES is the smallest, lightest and fastest handheld laser scanning probe. It is very user-friendly and offers maximum freedom of movement without cumbersome external cable connections.



Features

-  **Integrated design**
With its internal electronics and no external cables, measurements can be carried out everywhere – without restricting the arm's infinite rotation capabilities
-  **Simple and ergonomic handling**
Its low weight and ease-of-use enable fatigue-free work
-  **Expanded coverage and high speed**
With a laser stripe that is nearly 90mm, the laser line probe produces over 45,000 points of three-dimensional data per second using advanced CMOS technology

Enhanced scanning technology

The FARO Edge ScanArm ES allows the user to scan materials with challenging optical qualities effortlessly.

High contrast data capture

New HDR mode (High Dynamic Range) lets users scan materials with high contrasting colours simultaneously.

Performance specifications

Accuracy	±35µm (±0.0014")	Points per line	752 points/line
Repeatability	35µm, 2σ (0.0014")	Scan rate	60 frames/second x 752 points/line = 45,120 points/sec.
Stand-off	80mm (3.15")	Laser	660nm, CDRH Class II/IEC Class 2M
Depth of field	85mm (3.35")	Weight (LLP)	222.4g (0.49lbs.)
Effective scan width	Near field 53mm (2.09") Far field 90mm (3.5")		

FARO® TrackArm

Most versatile measurement system

The FARO TrackArm is the most versatile portable 3D measurement system. It brings together the long range and high accuracy capabilities of FARO's Laser Tracker with the flexibility and consistency of the FaroArm. Best of all, the FaroArm and Laser Tracker are stand-alone portable CMMs that can be used independently or in combination to create the multipurpose FARO TrackArm system.

Accessories for the FaroArm

Expand your possibilities

In addition to the FaroArm hardware and software, we also offer a broad range of supplementary equipment and accessories: probes, mounting options, tripods, measurement tables, computer, cables, adapters, tools, protective covers and transport cases.



Features

- ✓ **Versatility**
Seamless combination of two portable CMMs into one complete large volume solution
- ✓ **No line of sight limitations**
6DOF capabilities with no hidden point restrictions
- ✓ **Stand-alone capability**
Each system can also be used independently when needed, improving efficiency
- ✓ **Cost effective**
Large volume measurement at a fraction of the cost of comparable system
- ✓ **Ease of use**
Quickly synchronize devices by collecting points in space
- ✓ **Wireless freedom**
Ultimate portability with cable-free operation



Mounting options

Mount it where you need it

FARO offers diverse mounting options that allow for easy setup and ensure high flexibility when working with the FaroArm. Some of our most popular models are:

Mobile tripod:
Designed specifically for the FaroArm, the tripod features retractable wheels and can be easily folded for 'on-the-go' measurements.

Magnetic mount:
The magnetic mount lets you quickly setup the FaroArm on measurement plates, tools, or any metallic surface; even on the part itself.

Granite rolling cart:
The granite surface gives a solid work area for high accuracy metrology. Wheels on the heavy duty cart allow you to move it anywhere you need it. It also features arm mounting rings and a toe clamp kit for part fixturing.



Performance specifications

Typical measurement performance	80µm + 5 µm/m
Accuracy up to:	
FaroArm (Prime)	0.016mm
FARO Vantage	0.015mm @ 2m*
Tracker range	80m
TruADM instant beam acquisition	
6-Degrees-of-Freedom Probe	



Probes

The right probe for the right job

A wide selection of probes is available in different lengths and sizes for every measurement task.

Use standard hard probes for most applications. Use touch trigger probes for soft or flexible parts.

CAM2® SmartInspect Measurement software for everybody

Engineered for simplicity, FARO's CAM2 SmartInspect is the perfect software for any user that is looking for non-CAD based inspection. The software design is simple and intuitive. Even users without any 3D metrology background can be easily trained.

Software for FaroArm and FARO ScanArm Portable measurement software

Our hardware and the new CAM2® Measure 10 have been designed to maximize the end-users measurement capabilities with a complete FARO solution. Features like the Live Colour Scan, TrackArm Positioning, Align my Part Wizard and QuickTools Player provide great benefits to our users whether they are measuring with tactile or non-contact devices.



Software versions



SmartInspect Basic: Picture-based measurements

Combine real pictures of your component with every measurement process providing the user an image-based support for measurement guidance.

SmartInspect Pro: Picture-based and live on screen 3D view measurements

Interactions with the live view provide an intuitive platform to creating the necessary dimensions and constructions that cannot be measured directly to support the measurement process.

Additional features



Smart suggestion box

Suggestions are always available to the user on what he can do next with the objects that he has selected. This allows new users to get hints on the capabilities available to them while Expert users can exploit this feature to speed up their workflow.

Repeated part measurement

Once a part has been measured once, the measurement can be repeated with a single click. Using the Image View mode, the second measurement can be performed by any user.

QuickTool import

The QuickTools functionality permits to import and use QuickTools programs generated in the CAM2 Measure 10 software.



FARO CAM2 Measure 10



Live Colour Scan

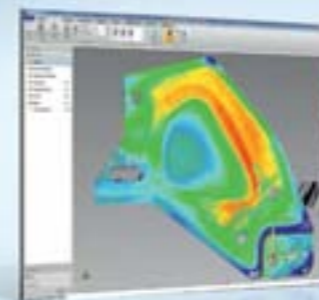
Thanks to Live Colour Scan, FARO's point cloud inspection technology, CAM2 Measure 10 users are now able to quickly scan freeform parts using the ScanArm in a way never seen before. Users see a live color deviation on their CAD model as the part is being scanned, increasing the efficiency during the scan process.

Shortcuts

The Shortcuts feature allows users to create new commands to measure features that are only available through combining measurements and constructions. Shortcuts empower you to record all steps of a complex measurement into a single command that can later be accessed with a single mouse click.

Align my Part Wizard

This new wizard makes CAD to Part alignment very simple. With a single button click, the user is guided through the process of defining an alignment using 3 datums or 6 or more surface points.



Software options



Compatible with numerous software solutions

All FARO measurement systems can be used in conjunction with a broad range of third party software.



Some of our software partners

Aberlink, Carl Zeiss, Delcam, Dynalog, Geomagic, InnovMetric Software, INUS Technology & Rapidform, metaio, Metrologic, Metromec, New River Kinematics, Robert McNeel & Associates (Rhino3d), Q-DAS, SolidWorks, TeZet, Verisurf Software.



Customer service Training and worldwide service

FARO has worldwide customer support offices. Thus we can offer training and on-site services close to our customers. We are also ISO 9001:2001 certified and ISO-17025 laboratory registered.

General information www.faro.com



Training



For your employees

A measurement system is only as good as its user. FARO offers training courses and workshops to show you how our products are employed most efficiently. Depending on your knowledge level we offer basic or advanced training. Training is carried out in small groups at FARO or – if you wish – at your facilities.



Customer service



Always there for you

On the phone: Our customer service staff are available from 8am to 5pm (CEST) from Monday to Friday. Free call number: 00 800 3276 7378

E-Mail: support@faro-europe.com

Online-Support Center: www.faro.com/support

On-site: Our application engineers will help you on-site.

Service contract

The service contract includes maintenance, inspection and calibration by our experts. In addition, customers with a service contract will receive a 10% discount on all accessories and free re-certification, repair and advice.



Webinars



Hear from industry experts on emerging trends in 3D documentation, advancements in 3D metrology and portable CMMs and best practices without ever leaving the office. If you are unable to attend any of our live webinars, they are all recorded and uploaded as podcasts here and are searchable by broadcast date. Check it out on our website: www.faro.com/webinar



Things to know & important links



Fairs and roadshows

Find out about upcoming events to meet the FARO team.
www.faro.com/uk/events
www.faro.com/distribution/events

Get a free demo!

We measure your parts on-site and show you how measuring tasks can be solved with portable 3D systems.
www.faro.com/demo

Free white paper

Improve your knowledge about measurement and 3D documentation.
www.faro.com/whitepaper

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Product videos

Our FARO videos speak louder than words and highlight all the great features of every single FARO product. Watch in seconds how to measure complex parts in production or document a challenging surveying task. All videos are available in several European languages. Watch the video online at: www.faro.com



Social media links



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www.blog.faro-europe.com

FARO's customers

References from all over the world

"The FaroArm has given us measurement capability that would not be possible with a fixed CMM."

Lee Moffett, JSF Engineer, BAE Samlesbury

FARO's customers include automotive manufacturers and their suppliers, companies from the aerospace sector, tool and mould making, mechanical engineering, metalworking, heavy equipment, consumer goods, power generation enterprises, countless small businesses, public authorities, and monument conservation firms. In total we care for more than 15,000 customers.



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