LASER SCANNING FOR FORENSICS INVESTIGATIONS

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The world leader in portable 3-D measurement and imaging technology
Today’s Agenda

1. About Faro
2. Our Products
3. Applications and Benefits
OUR HISTORY

Established by Simon Raab and Gregory Fraser

1982

Invention of the first FaroArm for measuring purposes

1988

Developed measurement products for the medical and surgical industry

1998

Acquired Cats GmbH, first subsidiary in Europe

2002

Acquired SpatialMetrix Corp. [Laser Tracker]

2005

Acquired Iqvolution [Laser Scanner]

Today

FARO is the world’s most trusted source for 3D measurement, imaging and realization technology
OUR CUSTOMERS

More than 30,000 installations and 15,000 customers worldwide
GLOBAL PRESENCE

Stuttgart, Germany

Lake Mary, FL

Singapore
Faro has 30+ years of experience in Dimensional metrology.

Commitment to clients for long-term relationships and never ending support.

Decision to create SPECIFIC GROUP for FORENSICS.


In News:

2013 Ranked in top 100 of fastest growing companies by FORTUNE 100 MAGAZINE.
3D Laser Scanning

- The process of capturing millions of measurement points of a real-world object or environment using a laser scanner.

- The laser scanner is a non-contact device that uses laser measurements to create the point cloud.
**Intuitive touchscreen display**
Control all scanner functions with a touch interface.

**Integrated colour camera**
Photorealistic 3D color scans due to an integrated color camera featuring an automatic 2 MP parallax-free color overlay.

**Data management**
All data is stored on a SD card enabling easy and secure transfer to a PC.

**Small and compact**
With a size of only 24 x 20 x 10 cm and a weight of just 5.0 kg.

**High-performance battery**
Integrated lithium-ion battery provides up to five hours of battery life.

**Internal Sensors**
Global Positioning Sensor, Altimeter, Inclinometer, Compass

**Focus 3D Specifications**

- **Ranging error**
  2 mm at 25m

- **Range Focus**
  0.6 m – 330m indoor or outdoor

- **Weight**
  Smallest 3D scanner ever built (5 Kg)

- **Measuring speed**
  122,000 / 244,000 / 488,000 / 976,000 points/sec
USING THE LASER SCANNER TO DOCUMENT CRIME SCENES

• Capture the Entire Scene

• Collect Data in Color

• Quick and Easy Measurements

• Create 2D/3D Diagrams/Models from Laser Scan
ADVANCE FORENSICS CAPABILITIES

• Witness POV Verification

• 3D Fly Through and Documentation

• Bullet Trajectory and Blood Spatter Analyses
ceiling clipped
door plan slice
front slice
left slice
scan1 victim
start
witness across street
witness next door on porch
witness sitting in car

Crime Scenes – 3D View
Crime Scenes – 2D
Bullet Trajectory
Shooting Reconstruction
Shooting Reconstruction
[Trajectory Scenarios]
Shooting Reconstruction
Blood Spatter Analysis

New School
Video/CCTV - Suspect Height Analysis

2D Photographs accurately merged into 3D point cloud
Accident Reconstruction – Night and Day

Night time

Daytime
FARO with HDR Photos - Night
Fire & Arson Investigation
Measuring Crime Scene with a Conventional Methods = Hours

1. Officer Safety Challenges
2. Long Closures = $$
3. Inefficiency & Human Error
4. Multiple Technicians = Overtime $$
5. Missing Data & Lost Evidence
6. Perishable Skill, Need to Level

This is your desired product

84 PTS | 2-4hrs Reflectorless
200 PTS | 2hrs Robotic
Measuring with FARO = 1min 40s

1. Reduce Risk of Officer Safety
2. Traffic Closure = 2 min
3. Efficiency
4. Technician = 1
5. Full Scene Preservation
What is the Final Result

- Enhanced solve rate
- Speed
- Accuracy
- Safety
- Cost savings
- Superior results
- Entire scene recorded
- Portability
- Court impact
What’s Possible
3D Laser Scanner Hardware Summary

- **Universal**: Simple controls and compact
- **Portable**: Complete instrument/tripod weighs less than 15lbs
- **Easiest-to-Use**: Intuitive touch-screen display with predefined menus
- **Compatible**: Point cloud data easily migrates into CAD | Drawing software.
- **Very Fast**: clear roadways, economic savings
- **Self-Contained**: Built-in battery and 2MP color camera
- **Safe**: Expertly independently tested.
- **Economical**: Most affordable and complete 3D laser scanner on the market today.
Some of Our Law Enforcement Partners

- Federal Bureau of Investigation
- City of Carlsbad Police
- Osceola County Sheriff
- City of Scottsdale Police
- Aurora Police
- Colorado Bureau of Investigation
- Phoenix Police
- Vermont State Police
- Boca Raton Police
- Missouri City Police
- City of Chesapeake Police
- Grand Rapids Police
- Polk County Sheriff
- Jefferson City Police
- Morris County Sheriff
- Dupage County Sheriff
- Long Beach Police
- Davenport Police
Forensic Applications

- Crime Scene Documentation-Reconstruction
- Shooting Origin & Reconstruction
- Bloodspatter Origin & Reconstruction
- Accident Reconstruction
- 3D measurements of critical evidence
- Cold case investigations
- Officer Involved Shooting
- Arson Investigation
- Homeland Security
- Post-blast Analysis
- Anthropology
- Clandestine Grave
- Impression Evidences
- SWAT Tactical Planning and Post-Incident Analysis
- Video & Imaging Analysis
Freestyle – Hand Scanner
Thank you!

Do Visit us at Booth-50, Hall-12.