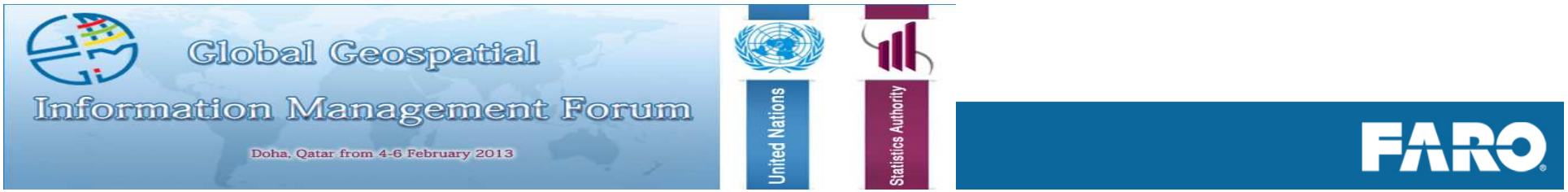
TLS in Geospatial Information Management

Dr. –Eng. Khaled Nabbout
FARO

pre-conference "Exchange Forum with the Geospatial Industry"
Doha, Qatar 3 February 2013



- Introduction
- What is Terrestrial Laser Scan
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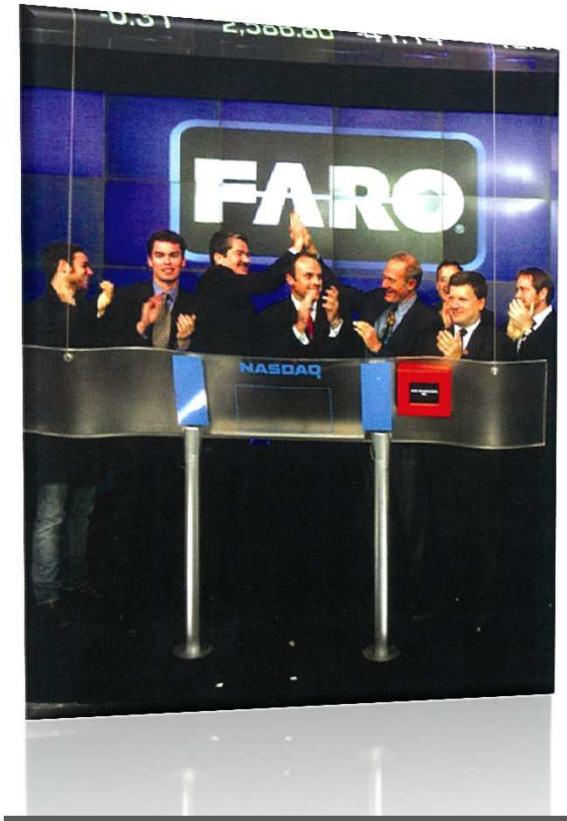
FARO EUROPE HEADQUARTER

With more than **20,000 installations and 8,000 customers globally**, FARO Technologies, Inc. (NASDAQ: FARO) and its international subsidiaries design, develop, and market software and portable, computerised measurement devices.

The company‘s products allow manufacturers to perform 3D inspections of parts and assemblies on the shop floor. This helps eliminate manufacturing errors, and thereby increases productivity and profitability for a variety of industries in FARO‘s worldwide customer base.
Principal products include the measuring arms Quantum FaroArm, Fusion FaroArm, FaroArm Platinum, FARO Laser ScanArm; FARO Gage, Gage-PLUS and PowerGAGE; Digital Template; the FARO Laser Trackers X and Xi; the Laser Scanners FARO Photon 80 and 20; and the CAM2 family of advanced CAD-based measurement and reporting software.



In 2007,FARO celebrated its 10th Anniversary as a public company by ringing the closing bell at the NASDAQ stock exchange.

Forbes Magazine recently named FARO one of America's 25 fastest growing technology companies.

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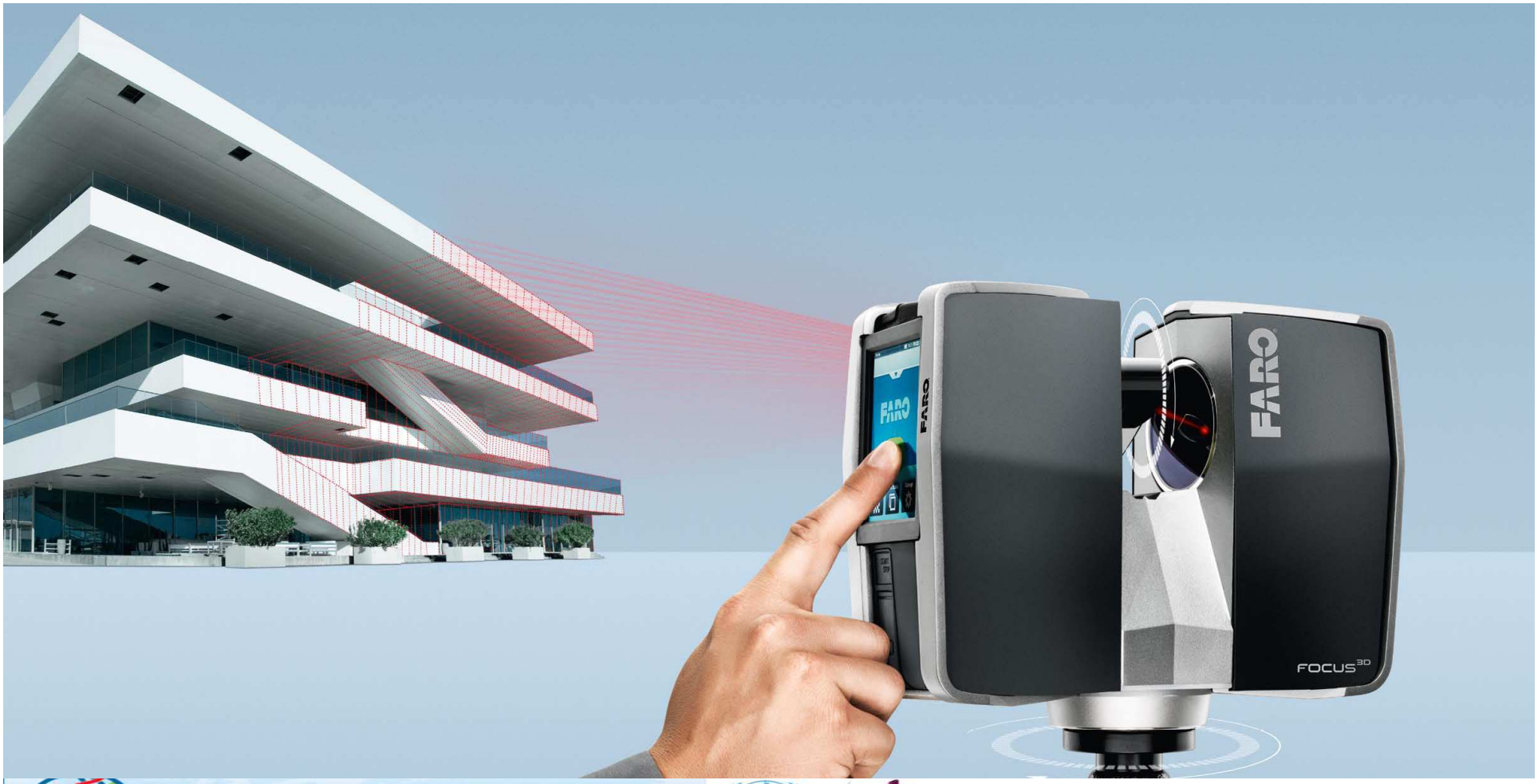
What is Terrestrial Laser Scan



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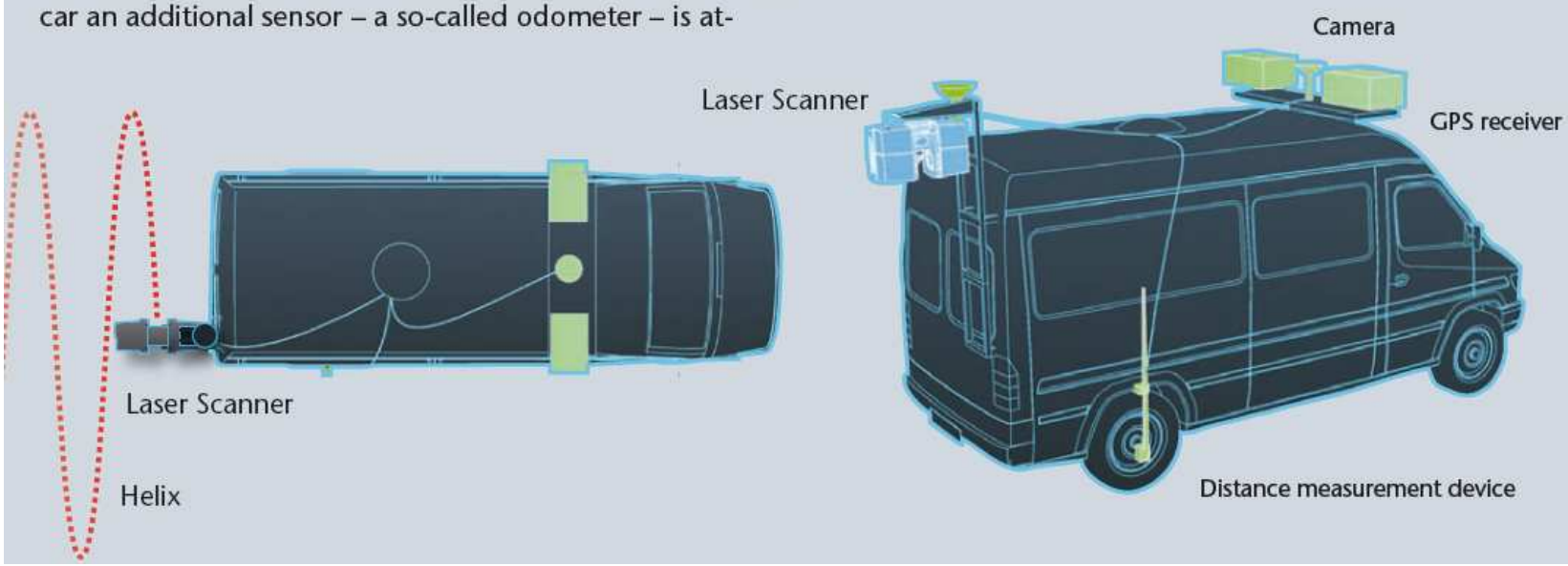
Data capturing methods

SCANNING A ROAD

To measure roads, railways or tunnels accurately the Laser Scanner is mounted on wheels – i.e. a car. While being on the move the laser scans its surroundings helically and creates a three-dimensional picture from the captured data. In order to obtain a colour picture of the road, digital cameras are mounted on the car. To calculate the exact route of the car an additional sensor – a so-called odometer – is attached to the vehicle. By using a GPS receiver and a rotary sensor, each exact location of the car is synchronised with the measurement points. All data is sent to a computer in the car and then processed using the Laser Scanner software



Source: FARO 2008

Productivity:

- Up to 50 km per day in urban areas
- Up to 100 km per day in extra-urban areas
- 1 day post-processing for every 5 days of data capture with geo referenced images and point clouds
- 0,5 to 2 hours work for data input per kilometer to carry out a full GIS database

Results and deliverables:

- Routes
- Pavements
- Vertical signs
- Traffic markings (automatically detected by the reflectance)
- Sidewalks and building facades
- Slopes
- Retaining walls and shoulders
- Tunnels and bridges
- guard rails

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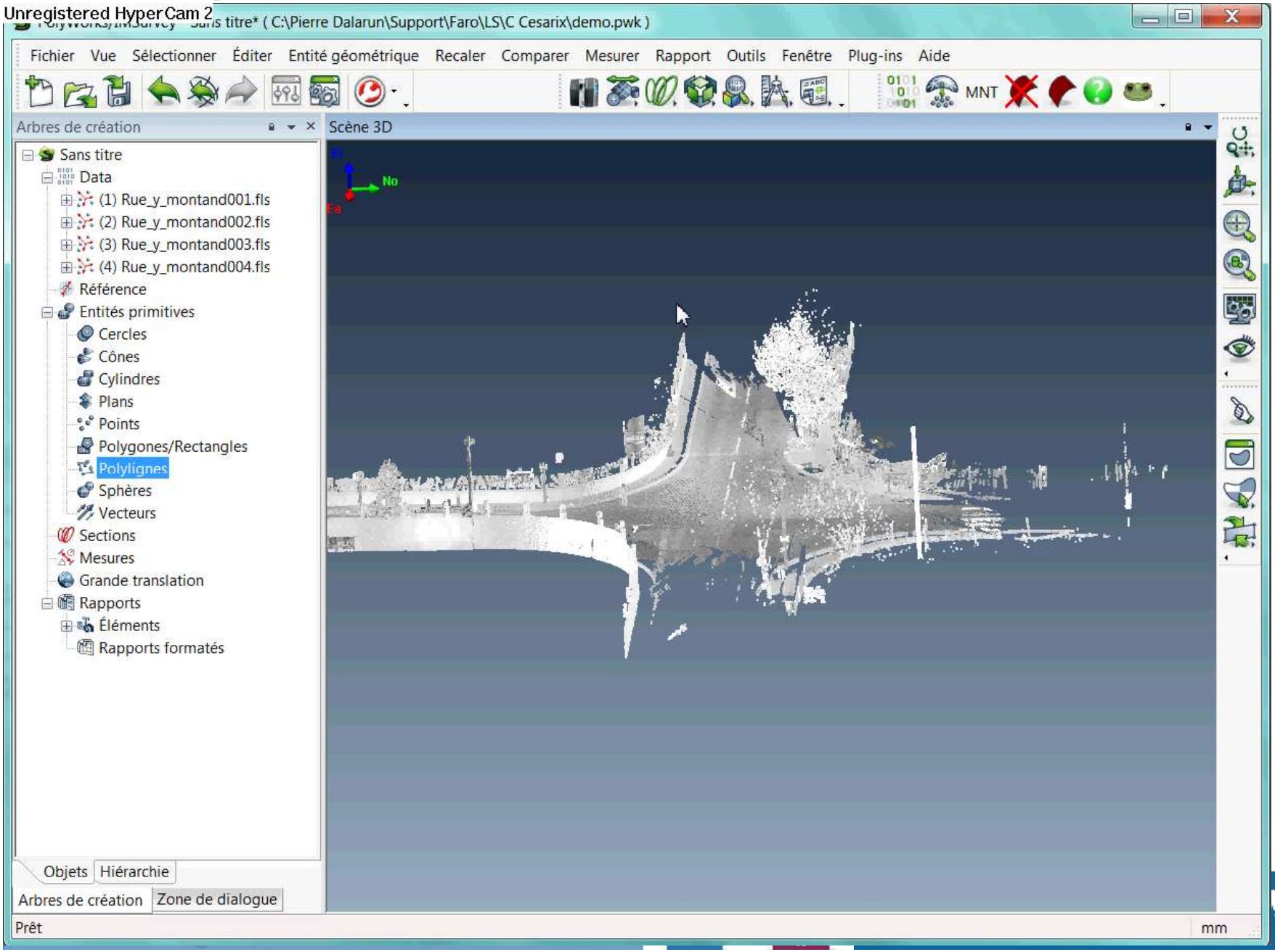
From point cloud to GIS



Life Demo and Doha example

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Thank you for your attention!

Please ask questions!
and…

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