

Terrestrial Laser Scan Applications in Urban Planning

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Introduction

What is Terrestrial Laser Scan

Why Terrestrial Laser Scan

How Terrestrial Laser Scan can be applied in
Urban Planning



Why Terrestrial Laser Scan

- Increasing in the request for 3D digital city model
- The demand for more detailed, precise and realistic models to improve participatory in Urban Planning





Urban Planning Applications

Data capturing: By Manually or Road Scanning



Source: SITECO & FARO 2008

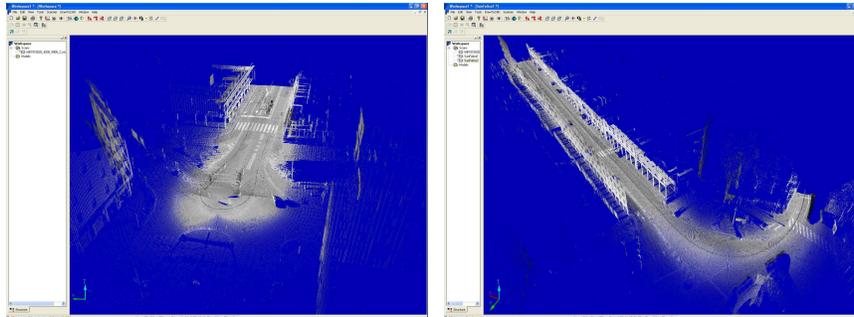
SCANNING A ROAD

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.

Labels in diagram: Laser Scanner, Camera, GPS receiver, Distance measurement device, Helix.

Urban Planning Applications (Cont.)

Data Processing:



Urban Planning Applications (Cont.)

Visualization



Summary & Outlook

“ Terrestrial Laser Scan great tools to support
Urban Planner

“ The outcome result of different projects show
the suitability of the Terrestrial LS in Urban
Planning

“ The demand for detailed 3D city models can be
only done through Terrestrial LS

“ The Urban Planner should consider the
Terrestrial LS applications specially from the
visualisation side to support participation





Thank you
very much

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