Web-based LiDAR data processing
Pointer Web-Platform

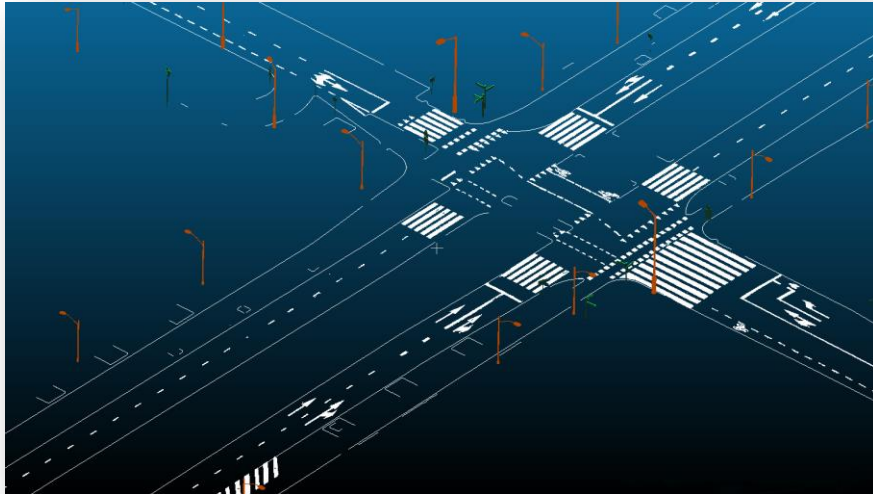**Dogan Altundag**
GeoSignum

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- High-tech engineering company specialized in automated feature extraction, analysis and 3D mapping software solutions in the field of 3D laser scanning
- Located in Delft
- Part of high-tech business incubator YES!Delft since 2013

What we do?

Innovative software solutions in **automated feature extraction** from LiDAR data

Experience: Thousands of km of LiDAR data processing in automated manner for large scale areas (e.g entire city, highway and railway)

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Massive size LiDAR data

Enormous volumes of laser scanning data is acquired via different platforms :

Airborne scanning   **Mobile Scanning**   **Terrestrial Scanning**

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LiDAR usage by organizations

Many departments

**Collect one time,
Use many time!**

Organisation Company
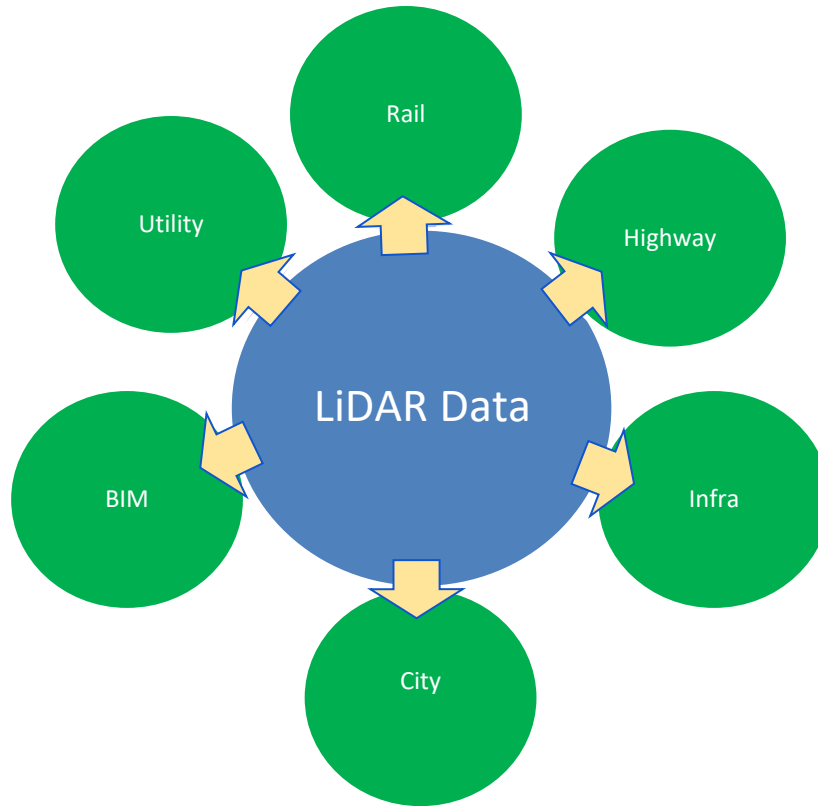
Rail
Highway
Utility
Infra
BIM
City

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LiDAR usage by organizations

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**Collect one time,
Use many time!**

Common Project
Using the same data source

Once you have the LiDAR data, then?

Some issues you will need to consider:

- A powerful Desktop/Workstation with high-end- video cards CPUs, RAMs etc..

- Different applications, feature extraction, analysis tools etc

- Storage space (a massive one, secure, fast and efficient)

- Visualization,

- collaboration with a colleagues

- Training people

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A new way of LiDAR data processing
Unique technology: Web-based LiDAR data processing

**GeoSignum Pointer
web-platform**

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GeoSignum Pointer Web-Platform
Unique technology: Web-based LiDAR data processing

Airborne LiDAR

Mobile LiDAR

Terrestrial LiDAR

www.yourorganisation.pointer.cloud

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GeoSignum Pointer Web-Platform
Unique technology: Web-based LiDAR data processing

Airborne LiDAR

Mobile LiDAR

Terrestrial LiDAR

www.yourorganisation.pointer.cloud

Access
Immediate access Terabytes or Petabytes of LiDAR (Airborne, Mobile and Terrestrial) data from your browser.

Manage
Create and manage unlimited LiDAR projects with download and share functions.

Extract
Extract and analyze features with just a mouse click on your browser.

Visualize
High performance 3D visualization and 3D measurement tools on your browser.
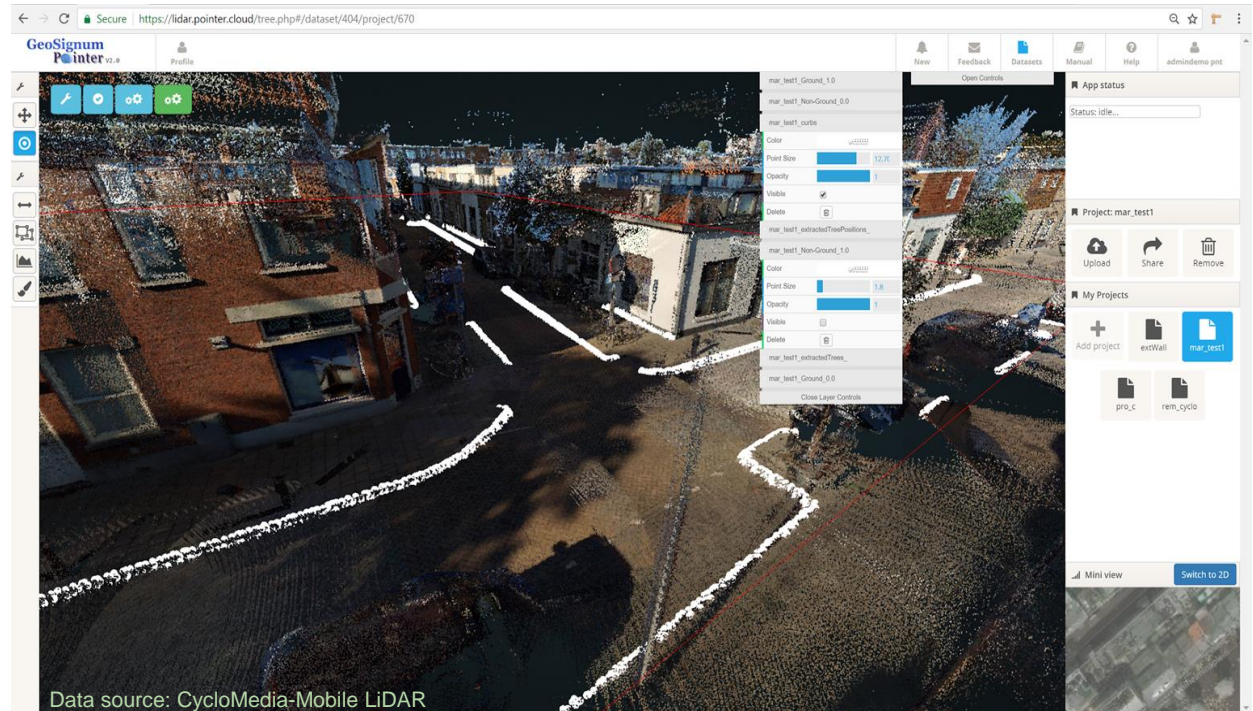
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All you need is a web-browser!

- No need - different plugins
- No need - powerful Desktop/Workstation
- No need - powerful video card/GPU
- No need - storage space
- No need - diverse feature extraction tools
- No need - data analysis tools

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Fully Automated Feature Extraction
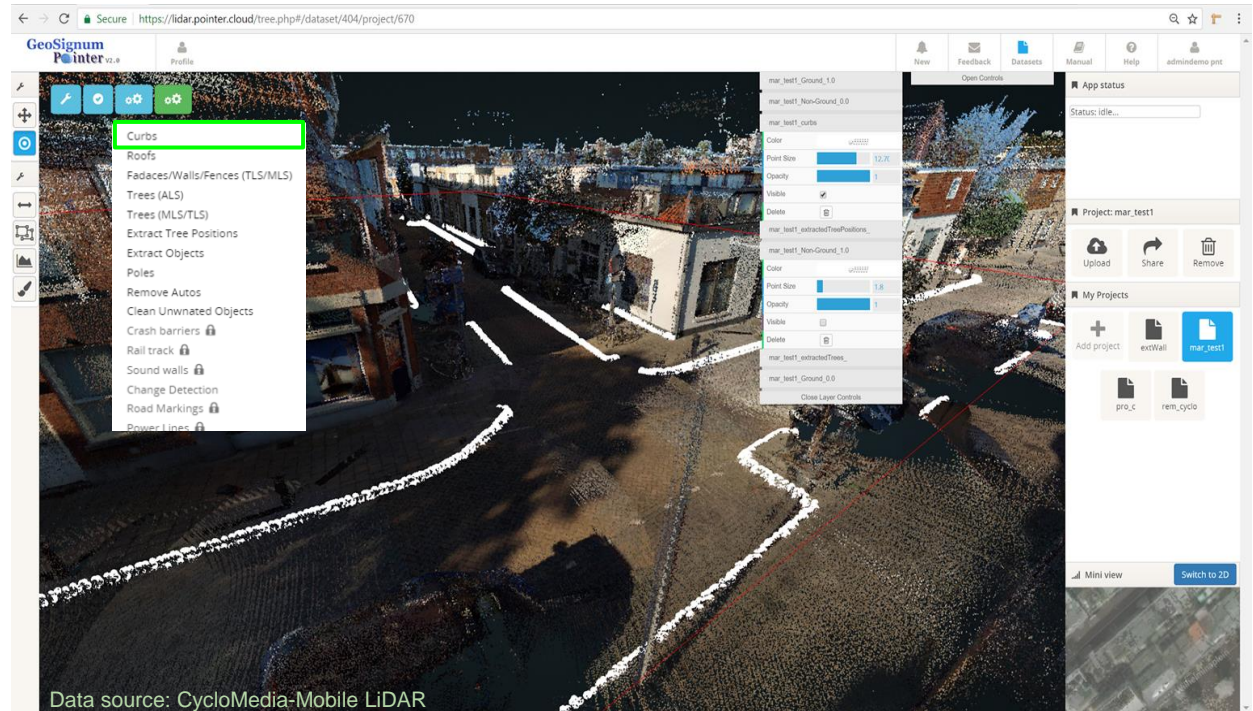
On-the-fly automated 3D point cloud processing

- Curb extraction
- DSM creation
- DTM creation
- Tree extraction (segments)
- Tree extraction(position)
- Building Rooftop extraction
- Fences/walls/Building Facades
- Vehicle removal
- Data cleaning
- Change detection

Data source: CycloMedia-Mobile LiDAR

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Fully Automated Feature Extraction

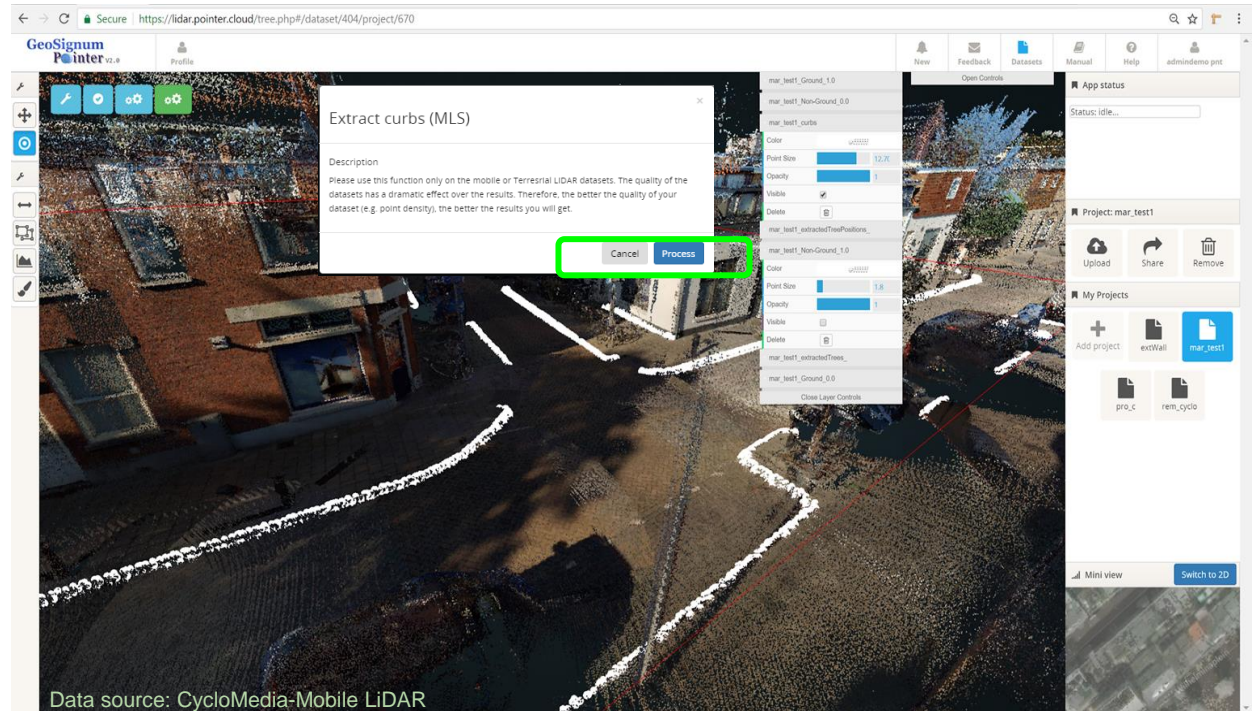On-the-fly automated 3D point cloud processing

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Fully Automated Feature Extraction

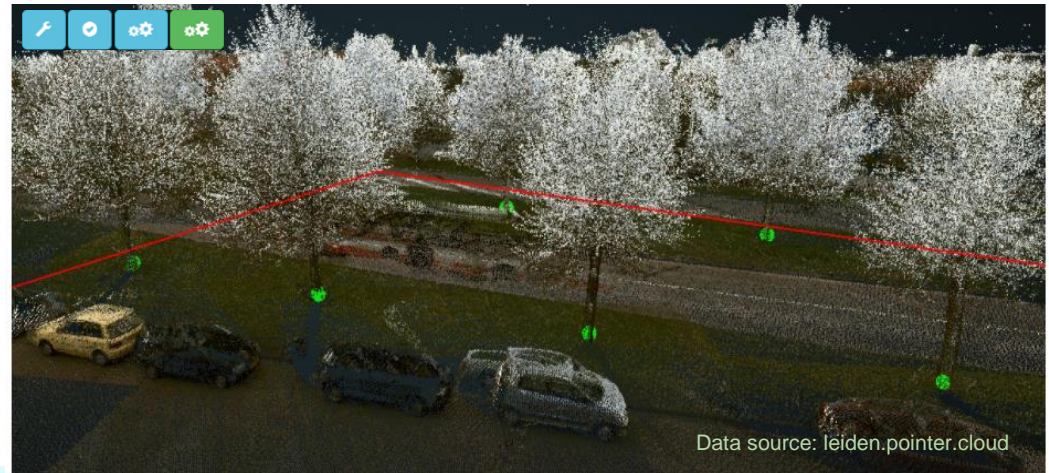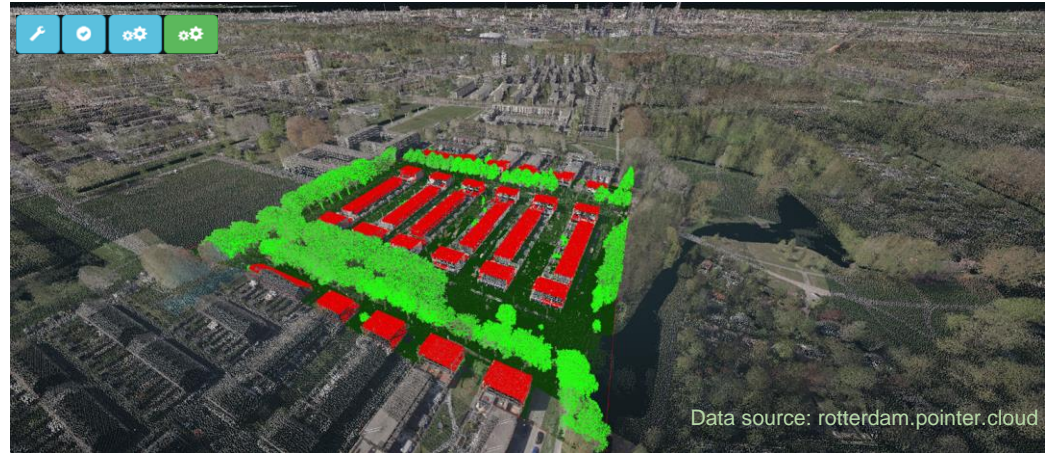On-the-fly automated 3D point cloud processing

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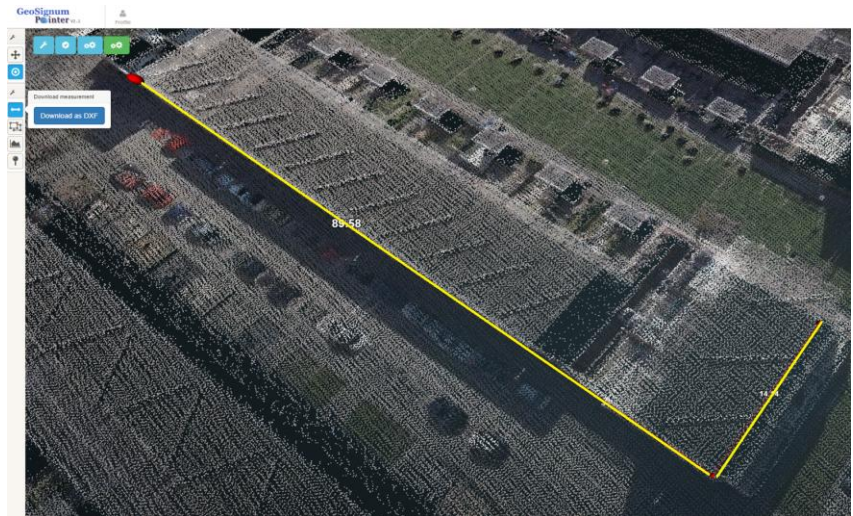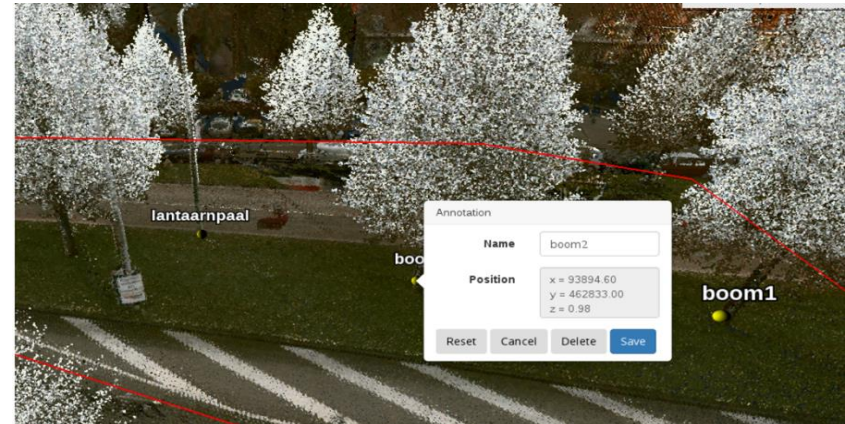**GeoSignum**

Fully Automated Feature Extraction

On-the-fly automated 3D point cloud processing

- Extract ground/non-ground
- Extract Planar Surfaces
- Fences/walls/Building Facades
- Extract objects based on geometry
- Extract Pole like objects
- Remove Vehicles
- Clean data
- many more...

Data source: rotterdam.pointer.cloud

Data source: leiden.pointer.cloud

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LiDAR data analysis tool sets, annotation, measure, profile

- Tagging/annotate context
- Measure distance and download
- Profiling
- Filter Noise,
- Filter Height,
- Downsample,Thinning,
- Data smoothing,
- Fill holes,
- Extract min-max percentage,
- Remove duplicates
- Quality analysis
- Collaborate on the same project
- Share data instantly
- Overlay 2 different LiDAR data to check differences

- many more...

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Thank you for your attention!

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