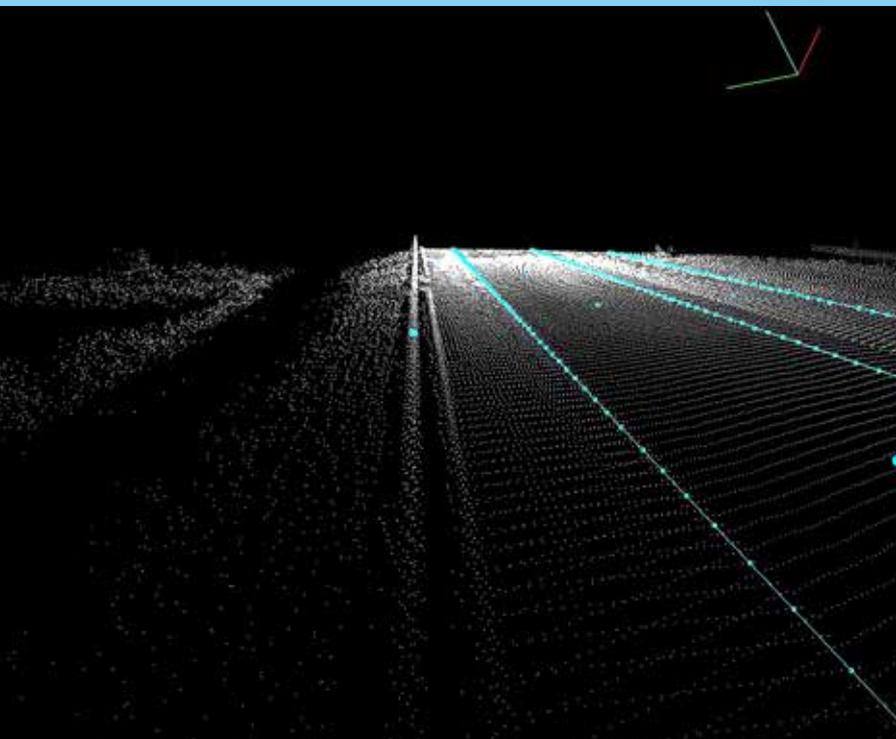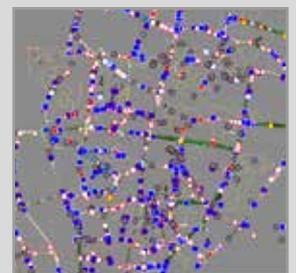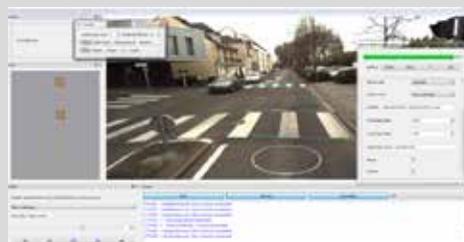# ViAmetris

MAGELAAN
Automatic Scan Data Recognition

Magelaan is MMS data processing software which automate the recognition of road features.
Its motor is a powerful graphic engine allowing LiDAR and images display from every MMS available on market (Riegl, Optec, Leica, Topcon…) while the kind of road elements are worn by several plugins.

Built to visualize and to operate the road measurements in MMS surveys (MMS = Mobile Mapping Scanner — Mobile scanner for exterior survey — roads and lands), Magelaan involves automatic and semi-automatic inventories in order to generated roads data.

Fed in measurements and eventually in pictures both coming from mobile scanner systems, this software is a link between the Mobile Mapping System and the Geographic Information Systems (GIS). Note that Magelaan can use survey datas coming for any scan system.

Originally coming with plugins for the extraction and the recognition of road signage (panel-signs, road marking), Magelaan allows by now to make vertical profiles of the road at regular interval, to measure the bankings for instance, since the polylines of road marking may provide the longitudinal profil and the radius of curvature of the roadway.
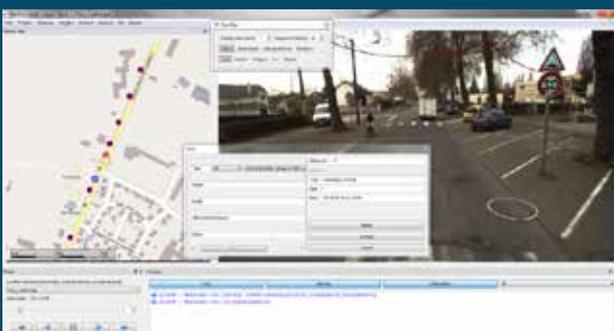
A new tool of automatic detection and measurement of the crash barriers, in metal or concrete, is going to come to birth in the next weeks.
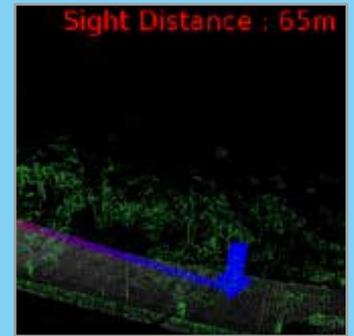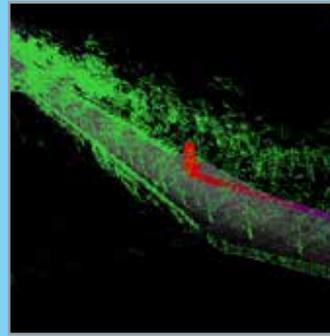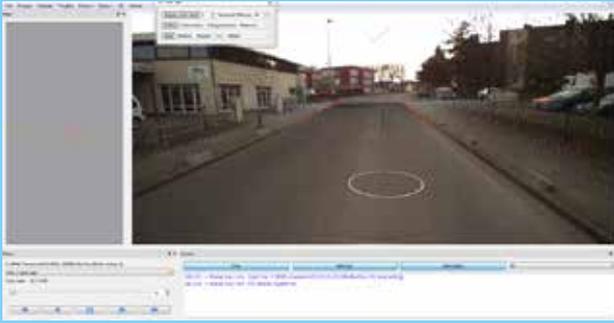
MAGELAAN MAIN INTERFACE

Road Sign Plugin

- Tight coupled algorithm using 3D point cloud and images
- Automatic recognition of shapes, color and sign
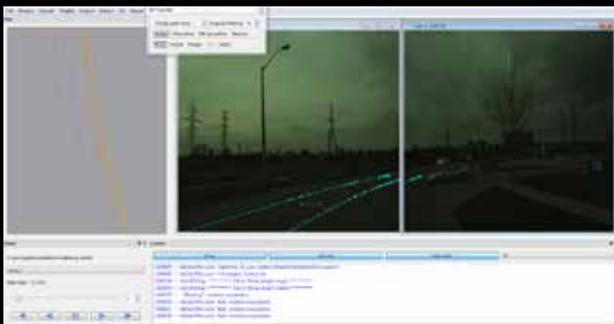- Possibility to customize the database w.r.t. to the country
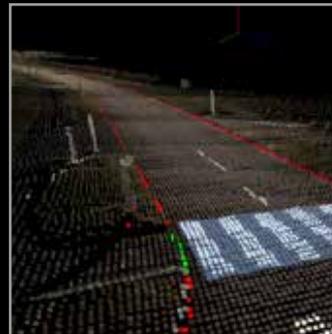
Road Geometry and Edges Plugin

- Based on 3D point cloud
- Calculates curvature, slops, sight distance, and road width
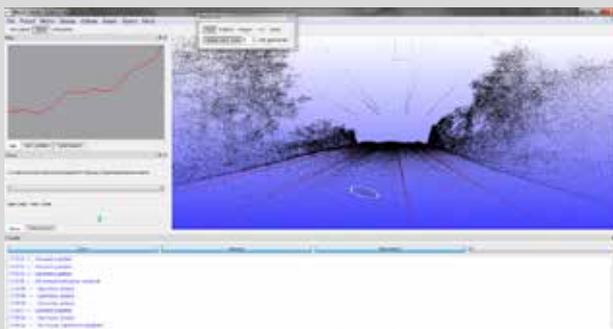- Outputs 3D polylines of road edges

Road Marking Plugin

- Based on 3D point cloud and reflectivity
- Outputs 3D Polylines and Polygons
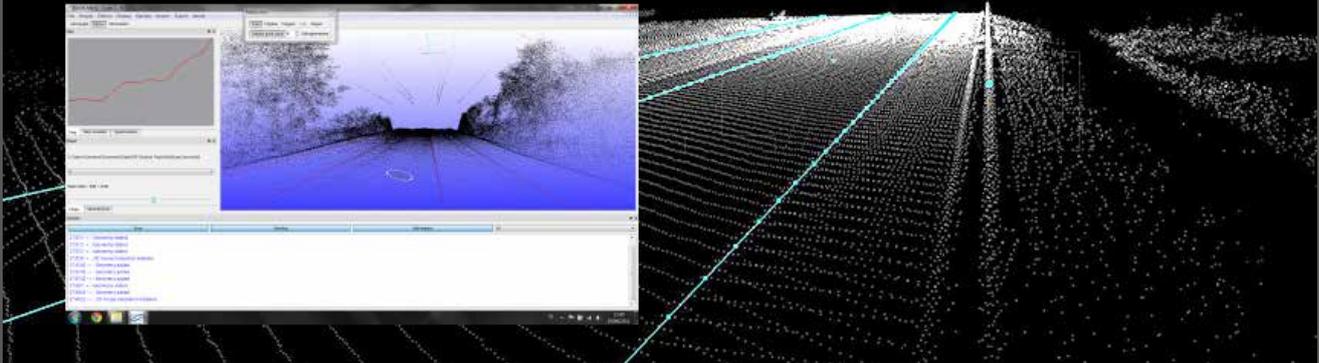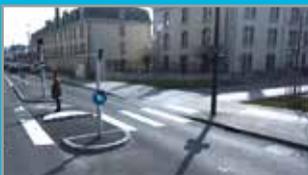- Attribute data such as width and marking modulation

Rail Plugin

- Based on 3D point cloud
- Using Rail profil
- Outputs 3D polylines

FEATURES OVERVIEW OF MAGELAAN

- Standalone software

- 3D Engine to display, measure and enter data

- Incoming Data parser for LAS files, images and trajectory

- Multiple viewer with different virtual point of view

- Working with panoramic and perspective cameras

- Set of plugin dedicated to specific automatic tasks

- Already tested with Riegl VMX, Optech Lynx, Topcon IP-S2 Compact/HD

- Set of different export format (DXF, SHP, KML, etc.)

- Support 3D mouse

1-1.0