

Terrestrial 3D Mobile Mapping

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IP-S2 Mobile Mapping Video Link

<http://www.topconpositioning.com/products/mapping-and-gis/mobile-mapping/ip-s2.html>

Overview

- **Total Mapping Solution**
 - Rapid non invasive method of capturing 3D positioning and video log data
- **Easy to Use**
 - Complete Solutions Out-of-the Box
Hardware / Software
 - Compact; highly integrated design
- **Scalable**
 - Add new sensors , as needed



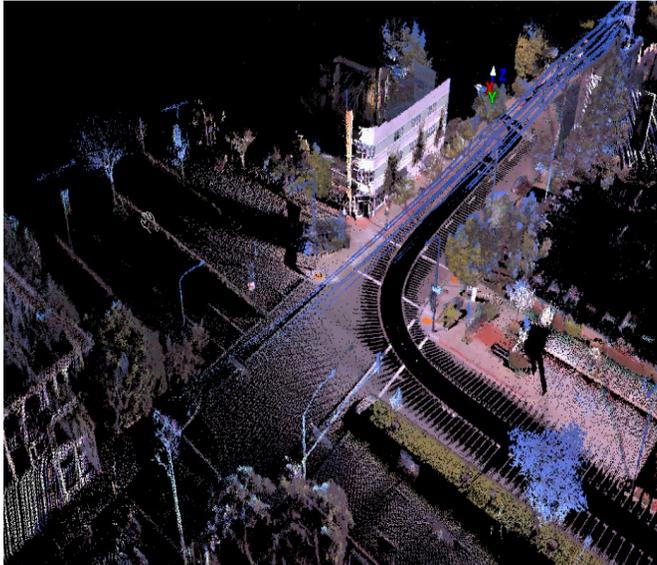
Mobile Mapping Advantages

- ✓ **Safe:** Map from a vehicle
 - Not from the roadway
- ✓ **Complete:** Get all information
 - In one operation
- ✓ **Fast:** Reduce weeks of data collection
 - Too a few hours
- ✓ **Efficient:** High accuracy at roadway speeds
- ✓ **Obsolete-proof:** Easily adapts to new sensors



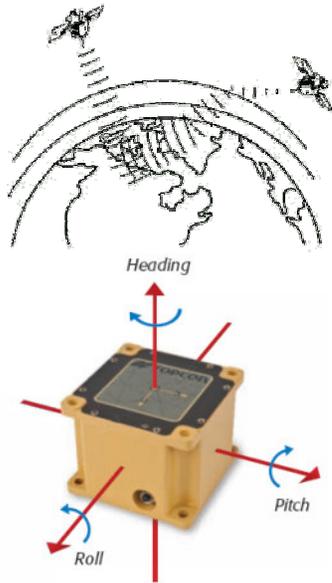
Mobile Mapping Advantages

✓ **Simple to use:** Factory calibrated works out-of-the-box



✓ **Data Exchange**
DBF and Shape Files

How does it work?



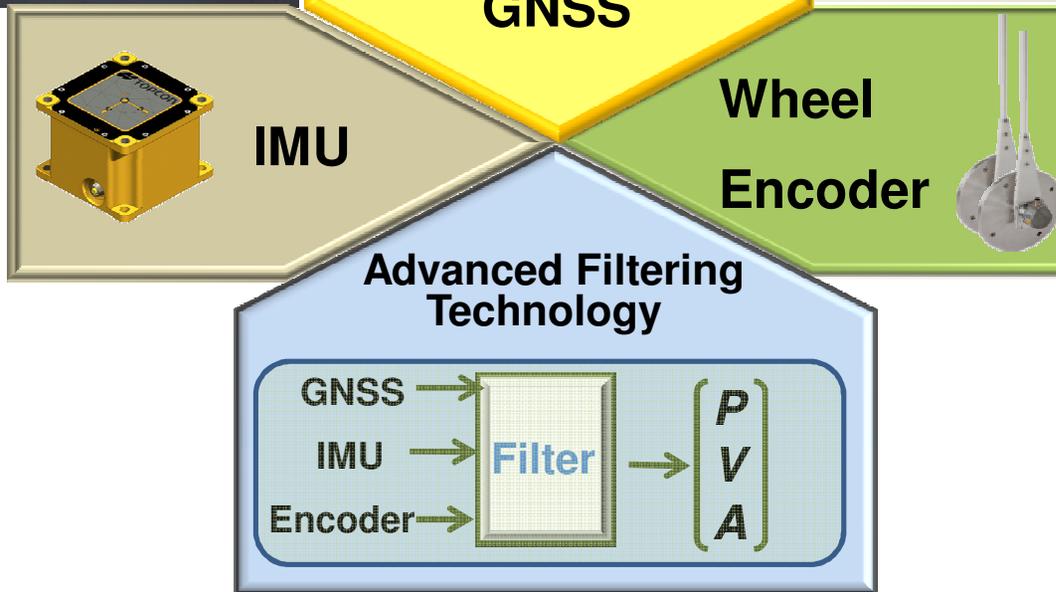
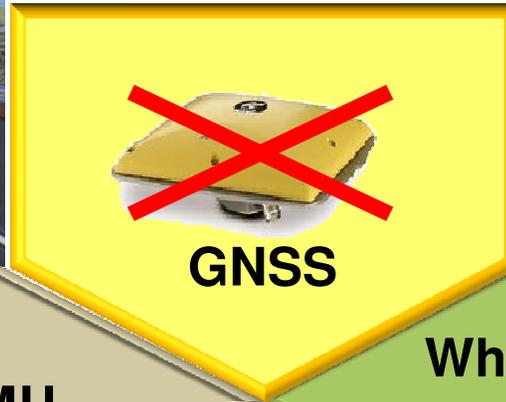
GNSS Receiver: position information
Latitude, Longitude and Altitude

IMU (Inertial Measurement Unit): vehicle attitude
Roll, Pitch and Heading

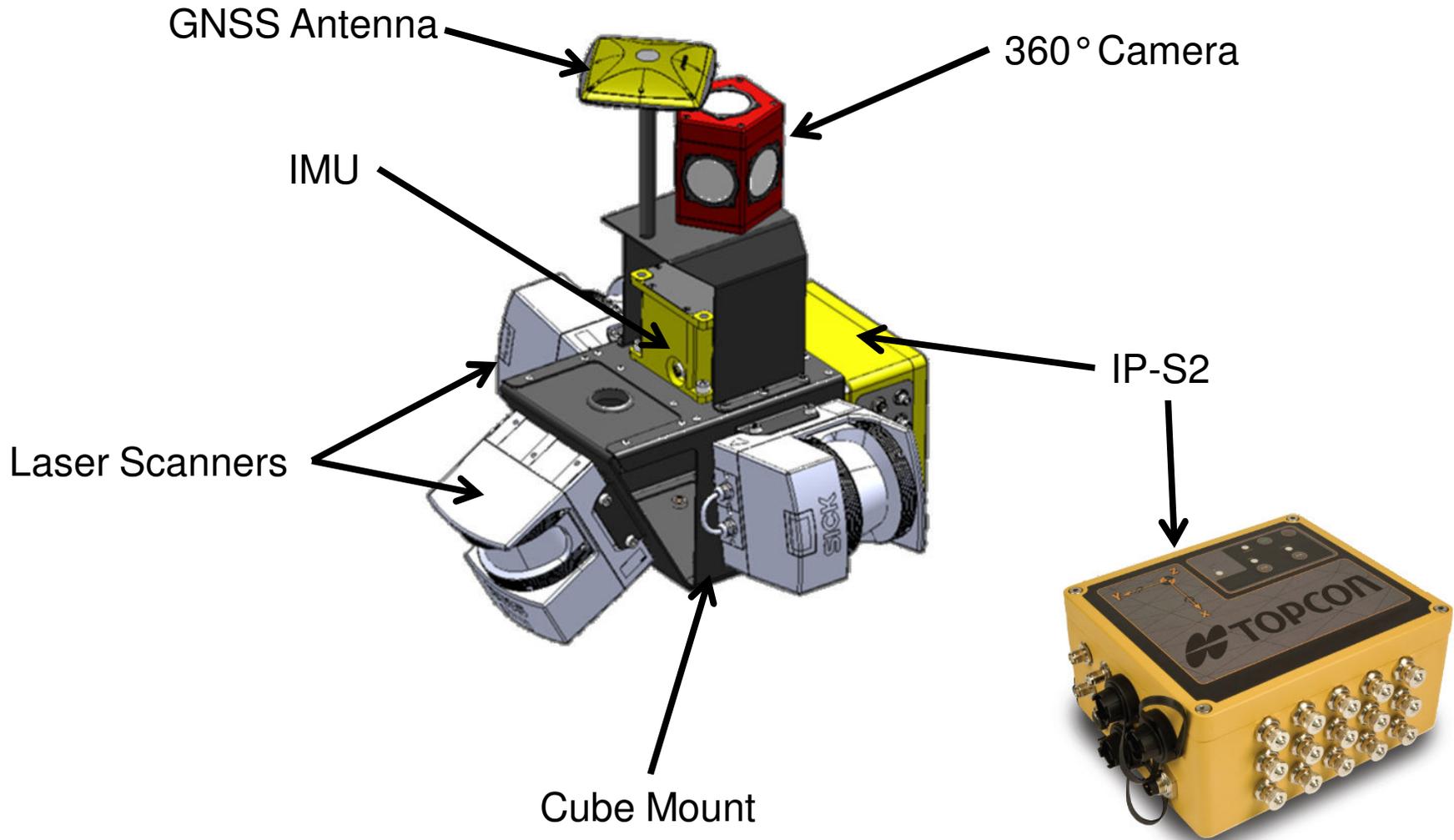


Wheel encoders, CAN bus: Vehicle Odometry
Estimate the velocity and position based on known location

Accurate Navigation When GNSS is Obstructed

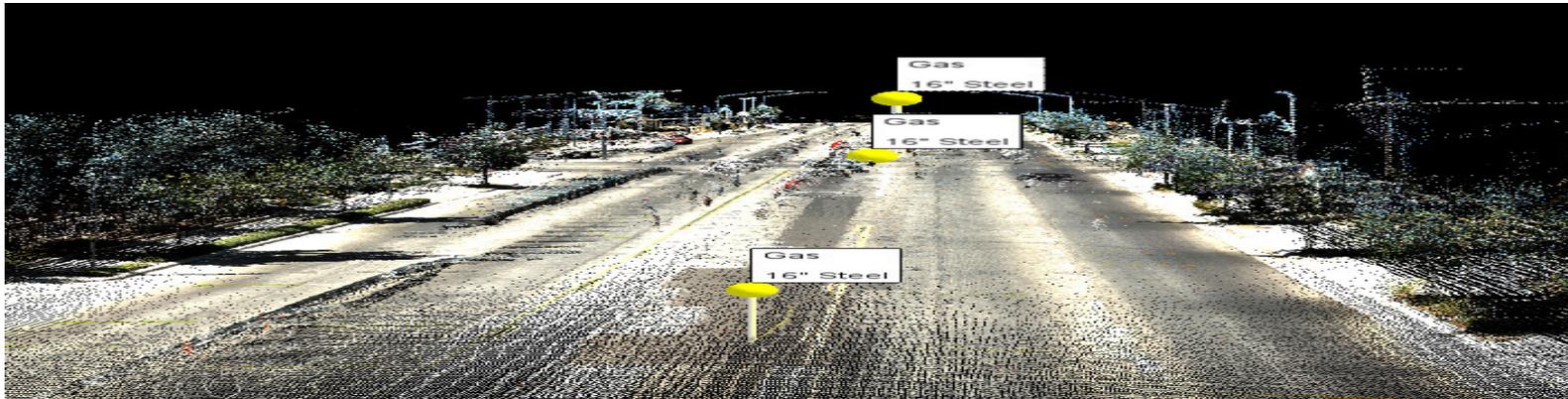


Mobile Mapping Technology



IP-S2 Applications

- ✓ Accurate geospatial system maps
- ✓ Expansion studies
- ✓ Risk management
- ✓ Environmental reporting
- ✓ Local condition assessment for repair operations



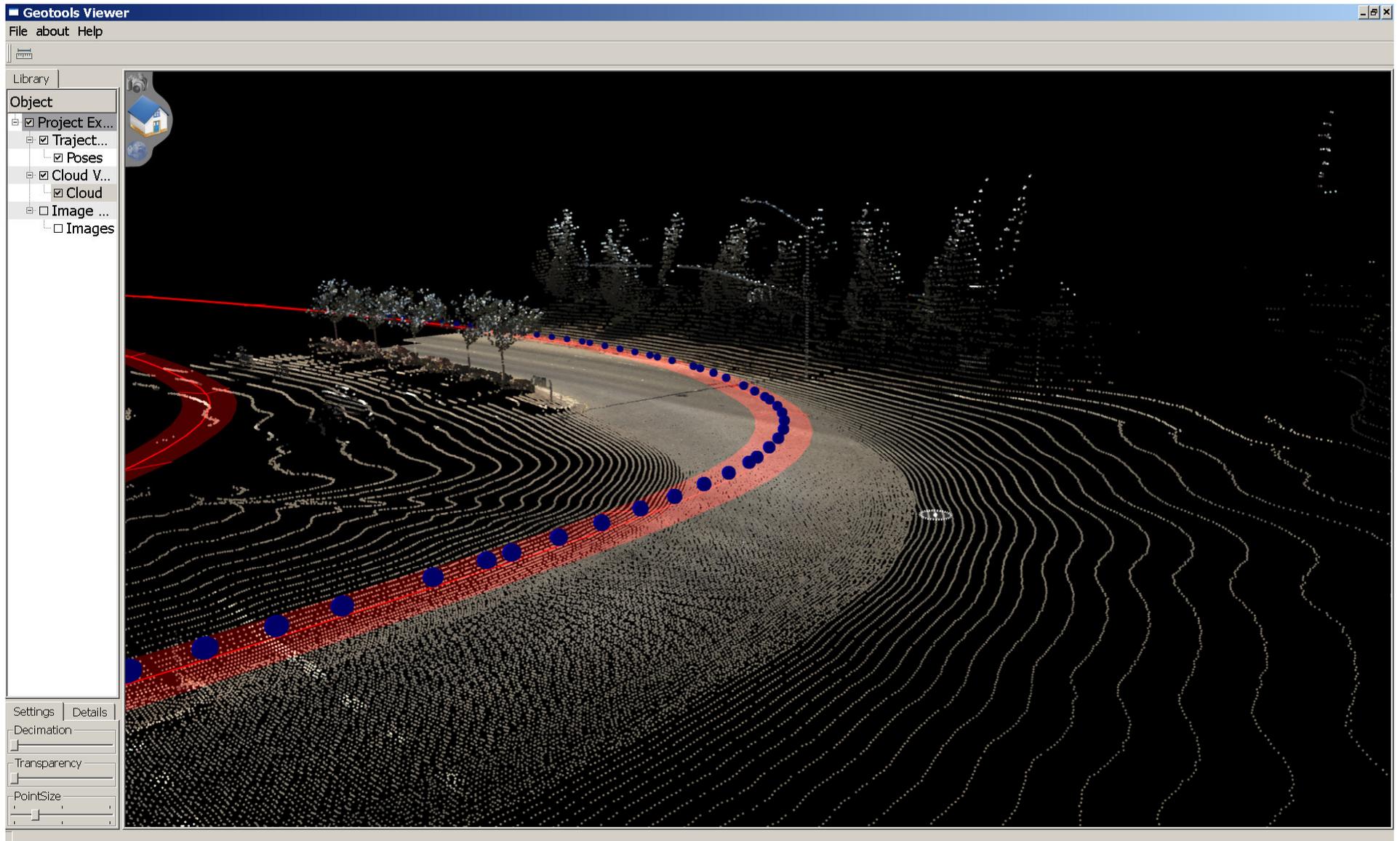
IP-S2 Applications

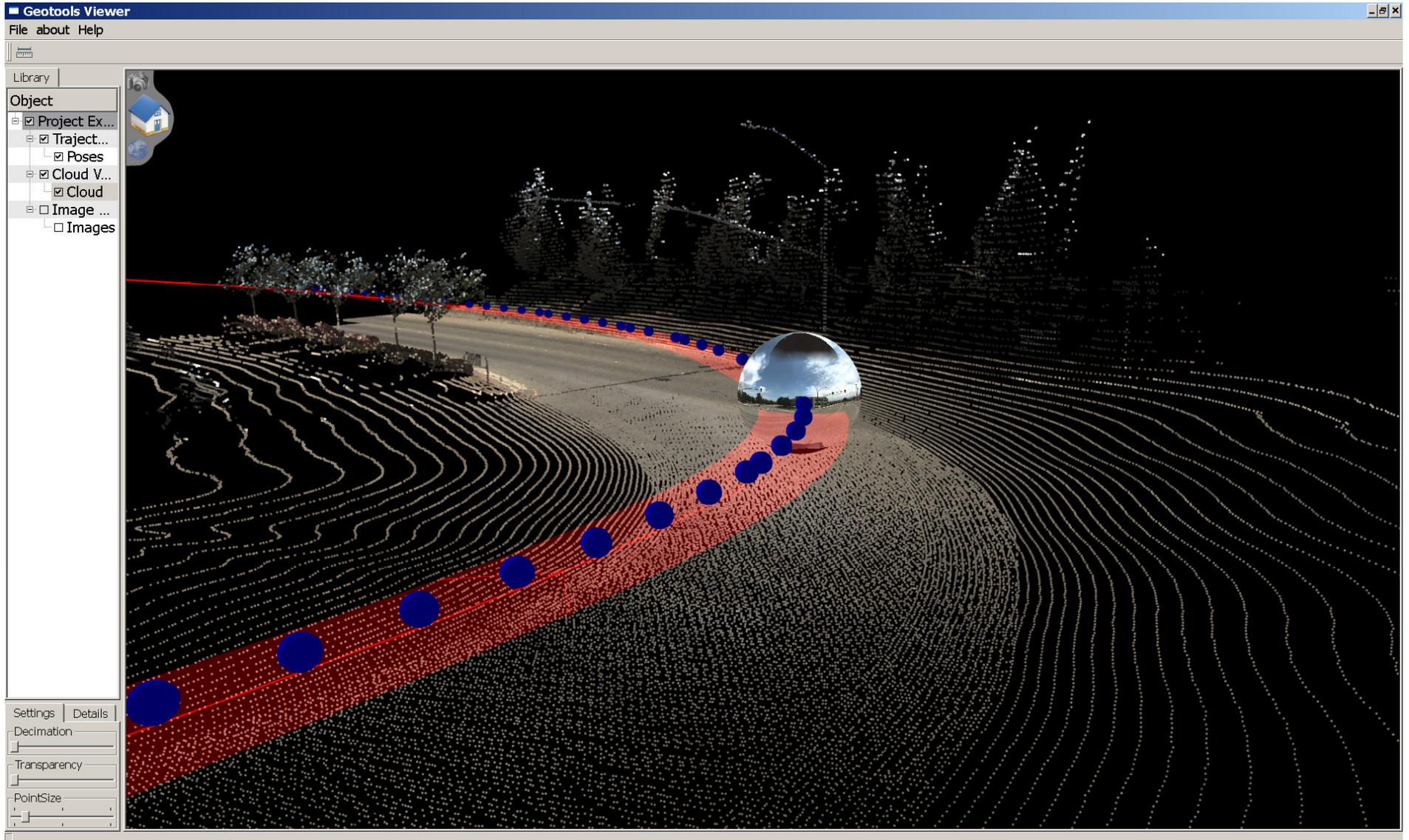
- Power Utility Mapping
 - ROW
 - Pole inventory / Joint Use Audit
 - Risk Management
 - QC
 - Vegetation Management
- Infrastructure and Asset Management
 - Utility structure location
 - Condition
 - Compliance
 - Regulatory/Safety/Environmental

IP-S2 Applications

- Roads / Streets / Highway Mapping
 - 3D Surface Conditions
 - Inventory Pavement conditions
 - Change Detection over time
- Disaster response planning
 - FEMA
- Railway Corridor Mapping

View Map of Data Collection Run





Use 360° Images & Point Cloud to Locate Features



Take Measurements use Point Cloud and the Image

Geotools Viewer

File about Help

Library

Object

- Project Explorer_0
 - Trajectory Viewer
 - Poses
 - Cloud Viewer
 - Cloud
 - Image Viewer
 - Images

Settings | Details

Decimation

Transparency

PointSize

Dist: 3.6763974m	
Pnt. A ...	
total	3.6763973
north	-1.9101781
west	3.1346564
up	-0.2024435
Pnt. A ...	
X	-2654736.5
Y	4288878.1
Z	3879838.9
Pnt. B ...	
X	-2654739.7
Y	4288877.3

- ✓ Import GIS Shapefiles or DBF
- ✓ Capture Accurate Feature Positions from Point Cloud
- ✓ Add / Edit Point, Line & Area Features / Attributes
- ✓ Export updated Shapefiles or DBF



✓ Dynamic colorized 3D Point clouds



✓ 360° Images



✓ GIS Compatible



360° Images



Point Cloud



ESRI Data Tables

Property	Value
CODE	struct
TYPE	none
DIAMETER	0.35
MATERIAL	steel
DEPTH	9.67
RIM_ELEV	45
INV_IN	5.6
INV_IN2	7.8
INV_OUT	6.7
INV_OUT2	7
STATUS	<Null>

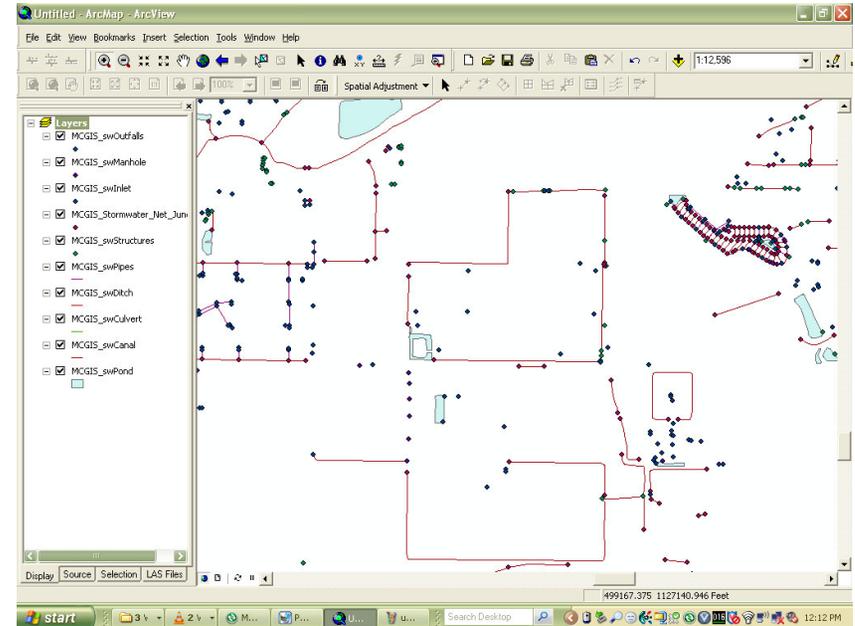
Attributes

+

Measurements

+

DBF



Questions?



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