TopoDOT for ESRI: Integrating Pointcloud and Image data into the ArcMap environment

There is now a TopoDOT® version for ESRI® products! Using Certainty 3D's proprietary DPEG image technology, TopoDOT® makes it possible to access Mobile LiDAR data (as well as data from Terrestrial, ALS, UAS and UAV platforms) containing an unlimited number of images, point clouds and related data from ArcMap® and other ESRI products.

Presented by:
Michael Cook
Lead Applications Engineer

Certainty 3D LLC, 7039 Grand National Dr. #100 Orlando, FL 32819
www.certainty3d.com info@certainty3d.com 001-407-248-0160

Certainty 3D Team

Certainty 3D Products

Point Cloud Processing Software

TopoDOT®

Data Storage

TopoCloud™

Free Project Planning Tools

TopoPlanner™

TopoMission™

Basic Process Workflow

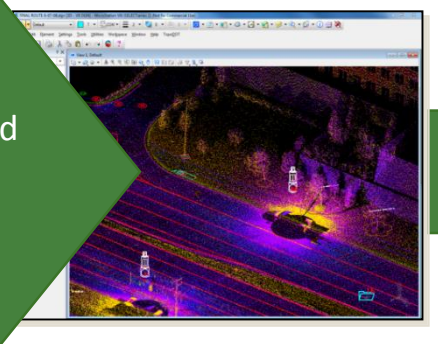
LiDAR System or UAV

Sensor Data

LiDAR System Processing Software

- System Calibration
- Acquisition
- Adjustment
- Correction
- Projection
- QA/QC

Point Cloud Images Control



Deliverables

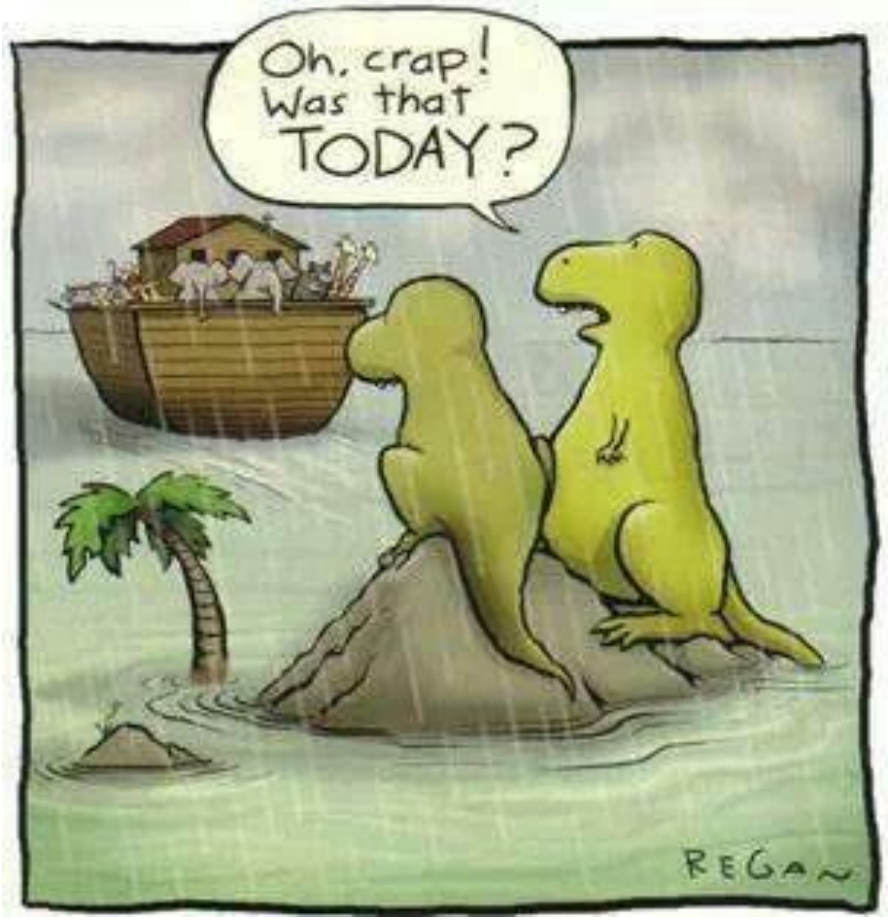
TopoDOT® MicroStation®

- QA/QC
- Feature Identification & Extraction
- Model Building

TopoDOT® ESRI®

- DPEGs

TopoDOT® Never satisfied with where we are. . .

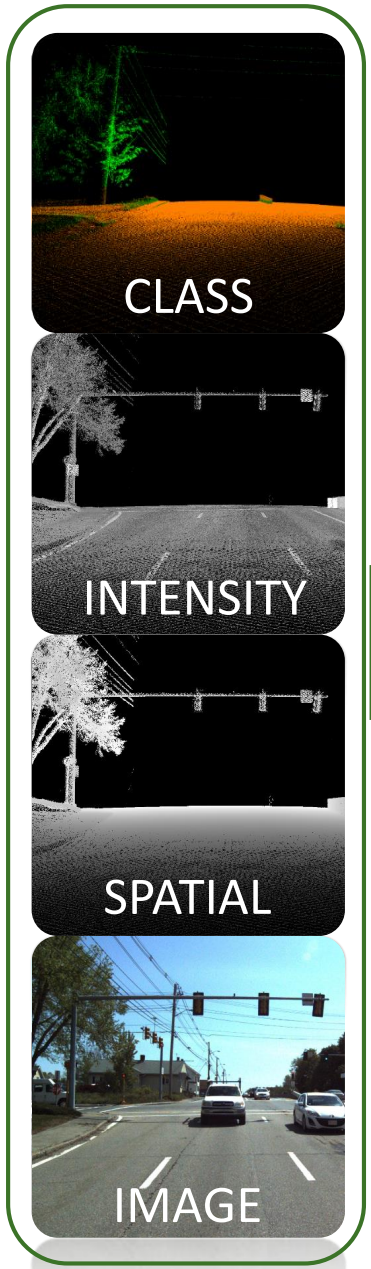


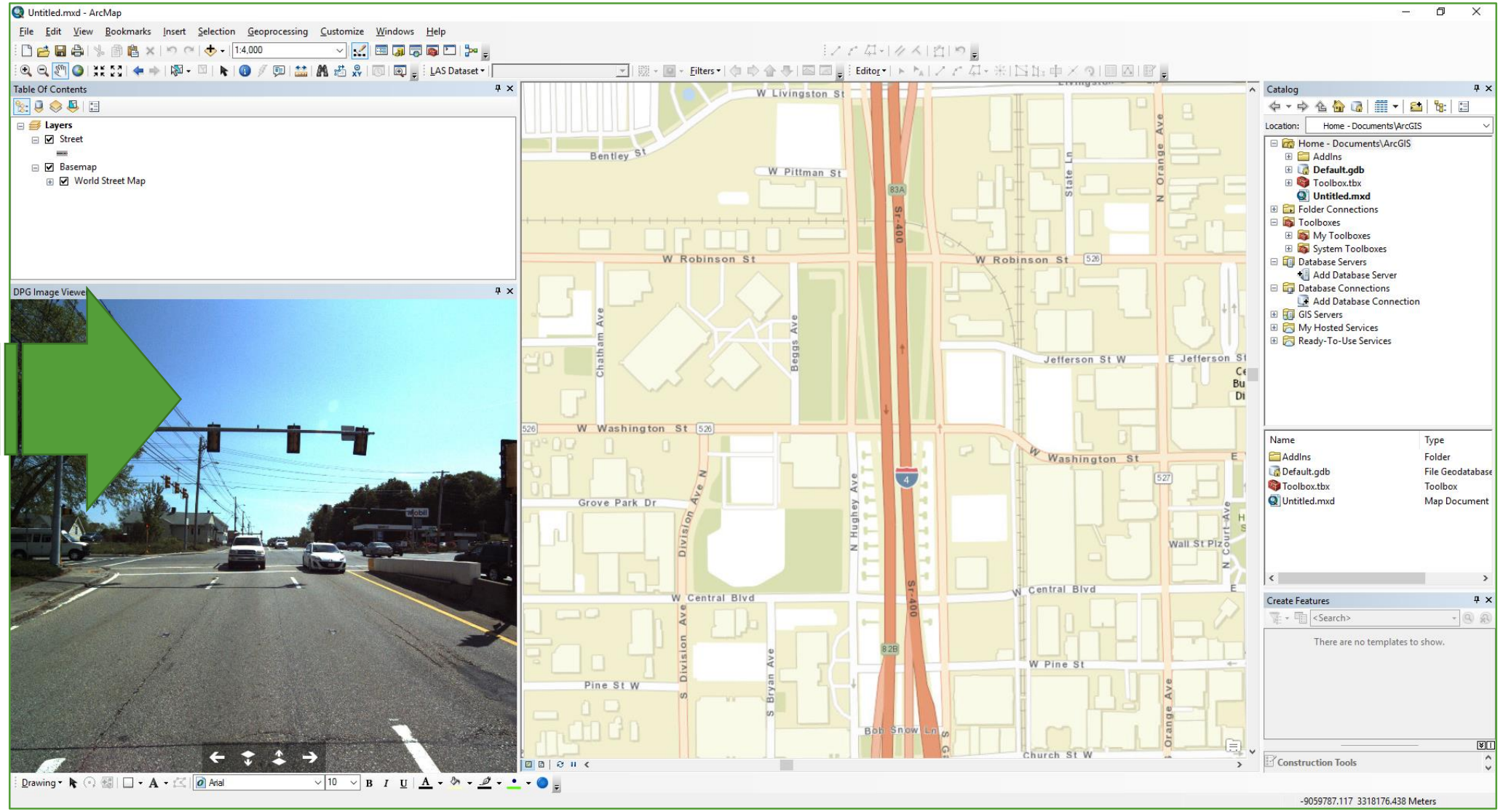
We're Getting a Second Home!

TopoDOT® in ESRI

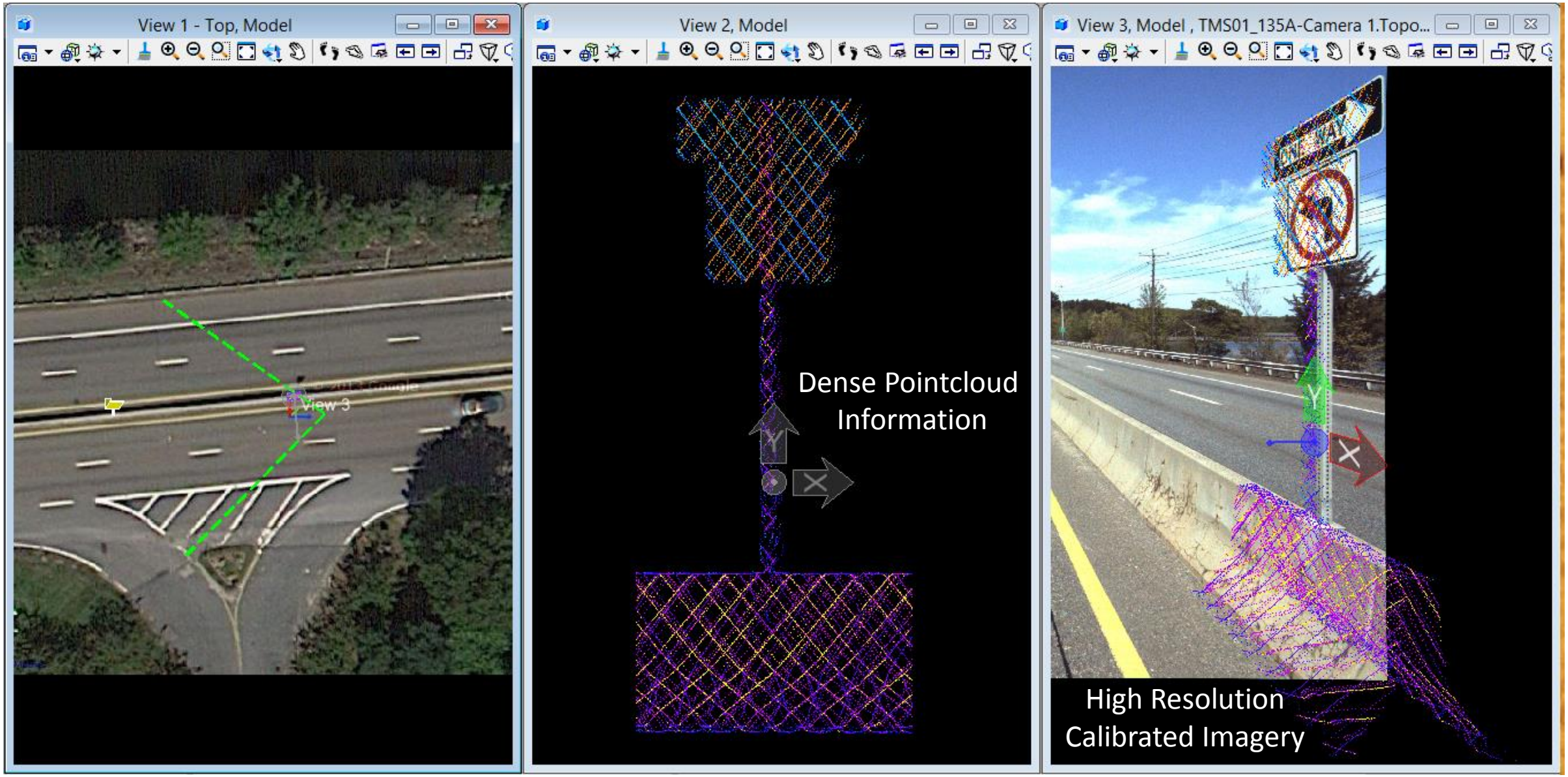
- Elegantly Simple
- High Performance
- Unlimited Project Size

How to get MLS data into ESRI?

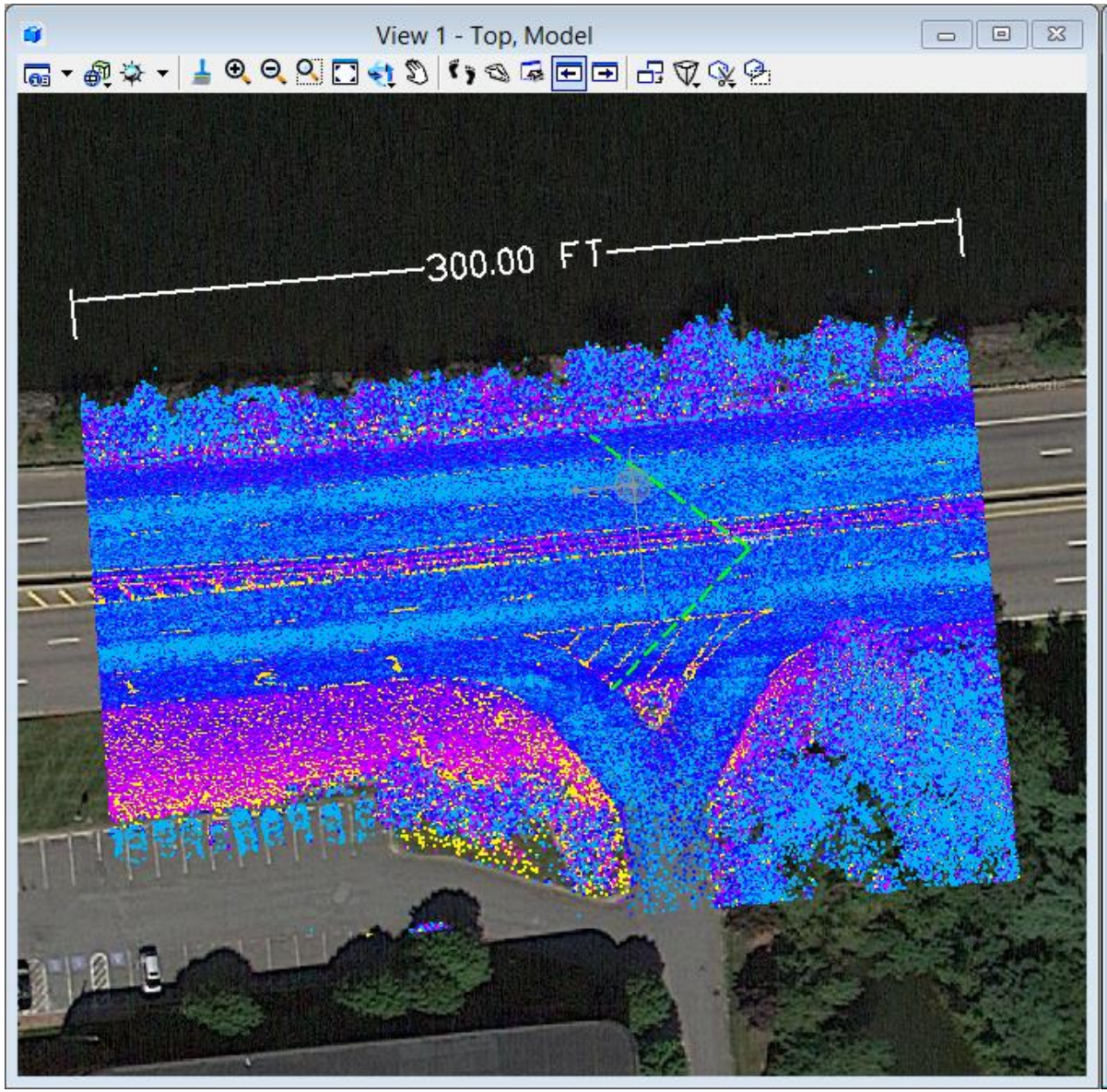


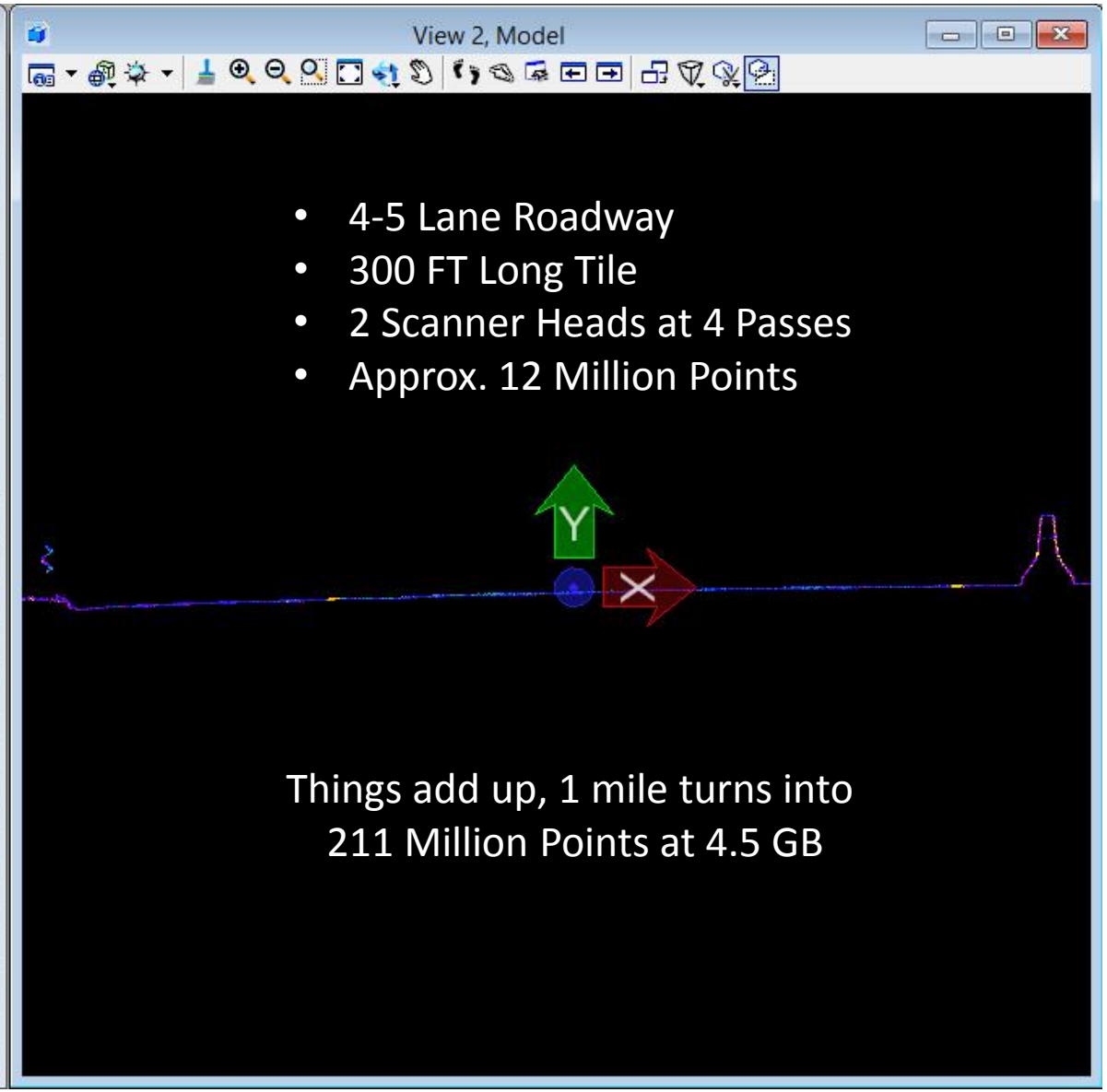


Point Cloud and calibrated Image data



Data characteristics

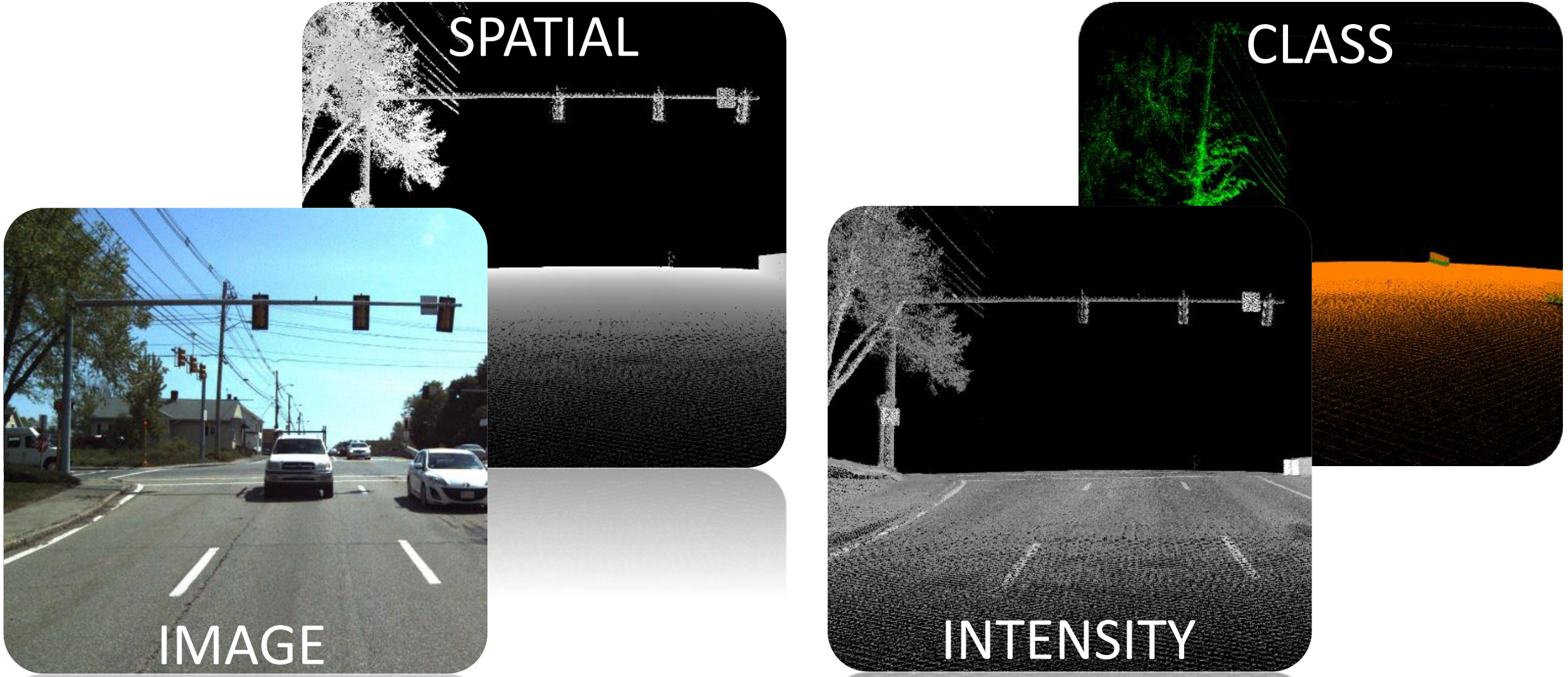




- 4-5 Lane Roadway
- 300 FT Long Tile
- 2 Scanner Heads at 4 Passes
- Approx. 12 Million Points

Things add up, 1 mile turns into
211 Million Points at 4.5 GB

Introducing the *Depth Photo Exchange Graphic* or "DPEG"

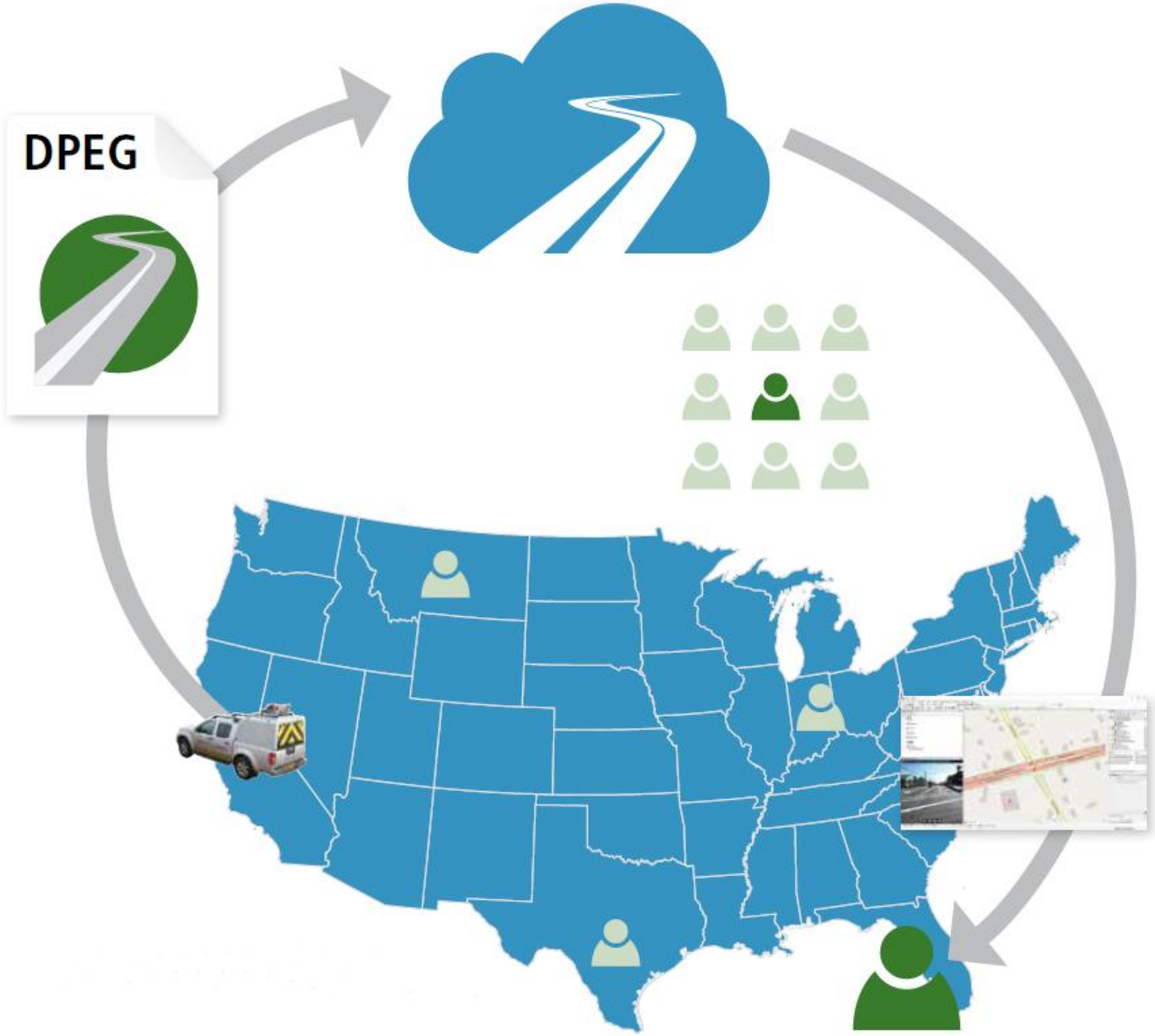


4 Channels in One Compact File

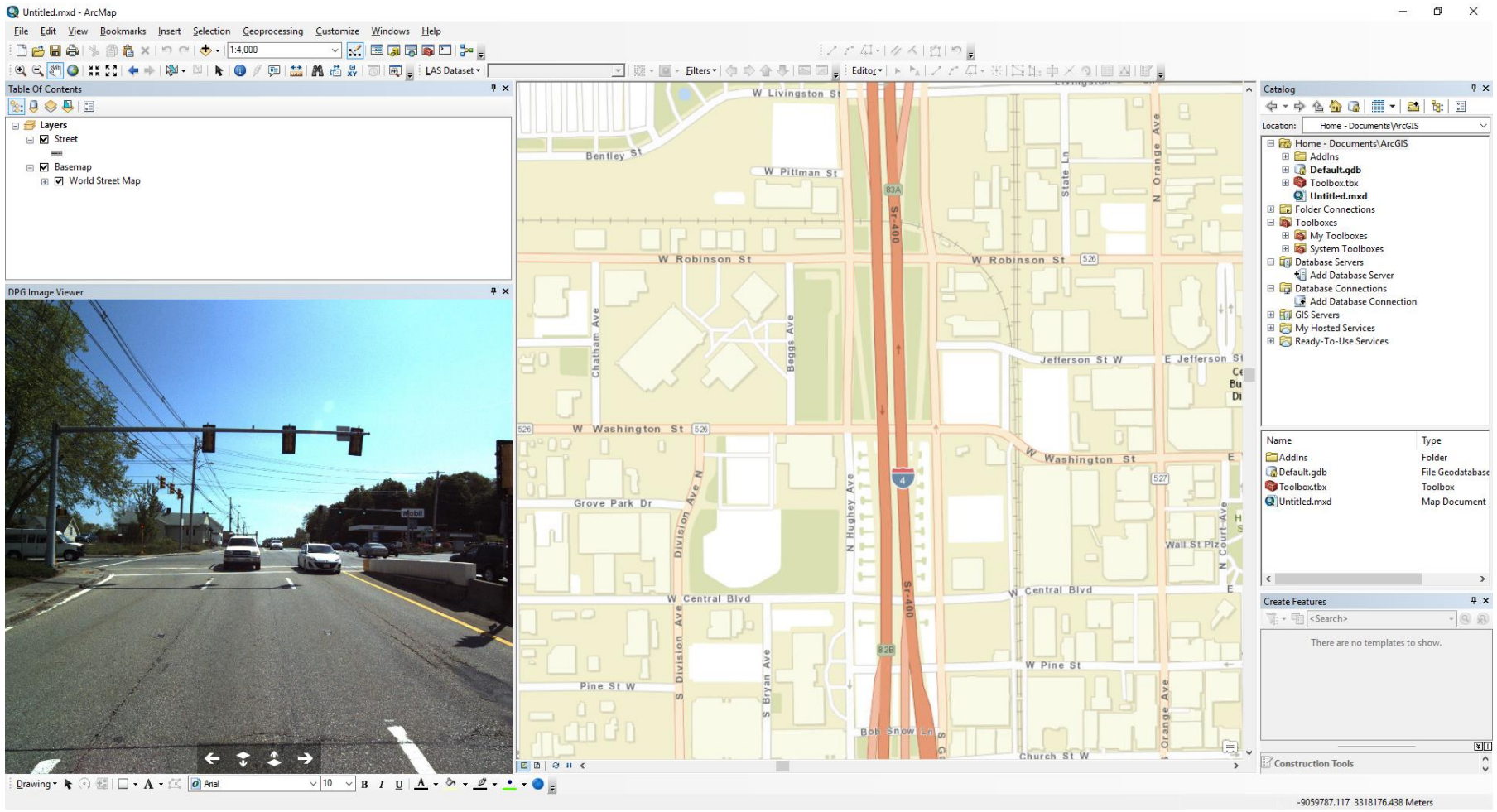
Why DPEGS?

- ✓ Permanently tie position and multiple channel information to individual image
- ✓ Optimize file size by selecting data using image perspective view criteria
- ✓ Optimize selection and loading of point cloud files in any platform
- ✓ Automatically create DPEGs from any LAS and tightly calibrated jpeg files
- ✓ No complex streaming operations, coordinate transformations correlating point cloud and image information are required.
- ✓ 4MB JPEG image will yield a 7MB DPEG
- ✓ Flexible Cloud Storage
- ✓ Fast Data Transfer
- ✓ User friendly operation
- ✓ Low Cost

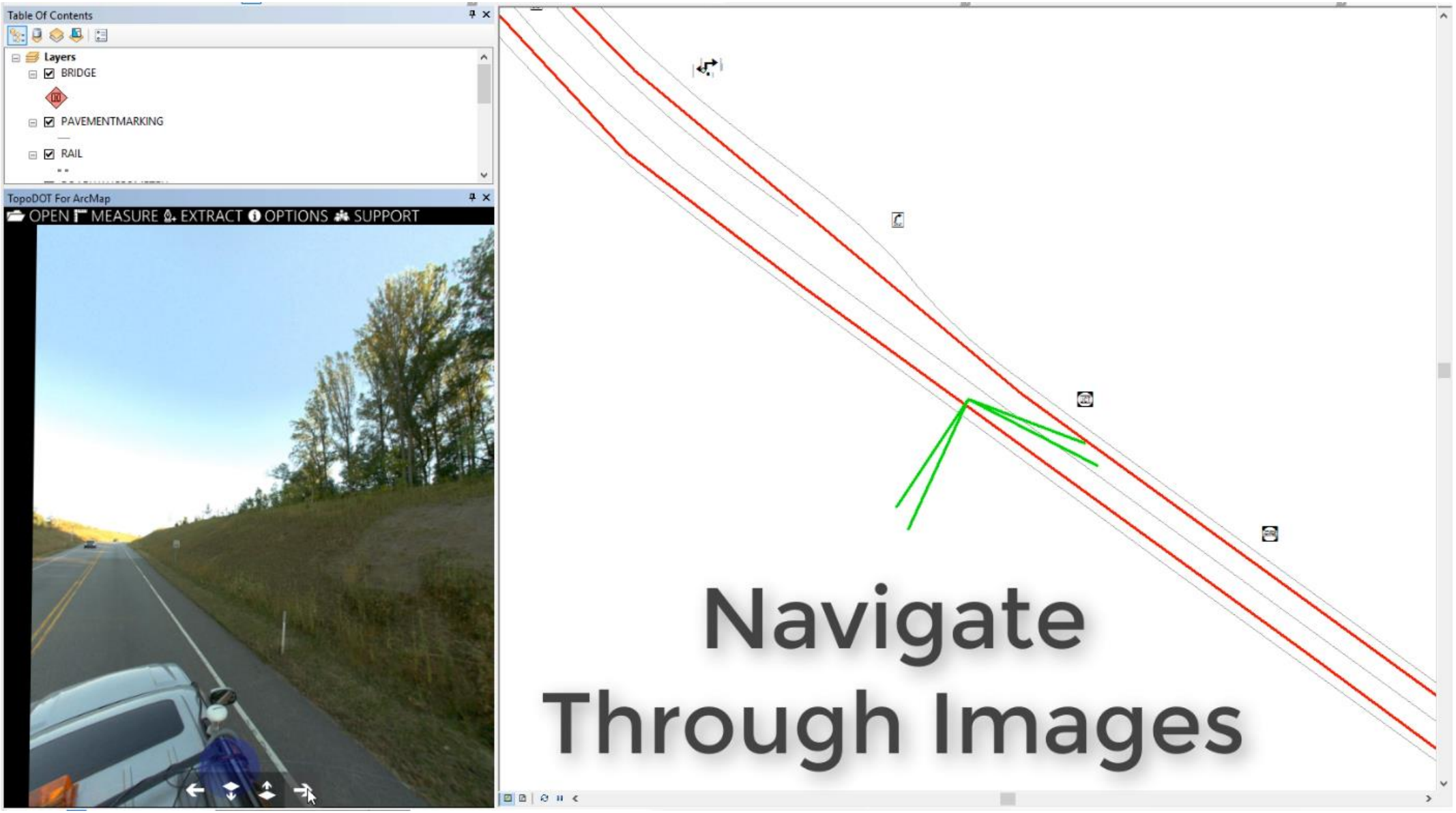
DPEG Workflow: from the field to the end user.



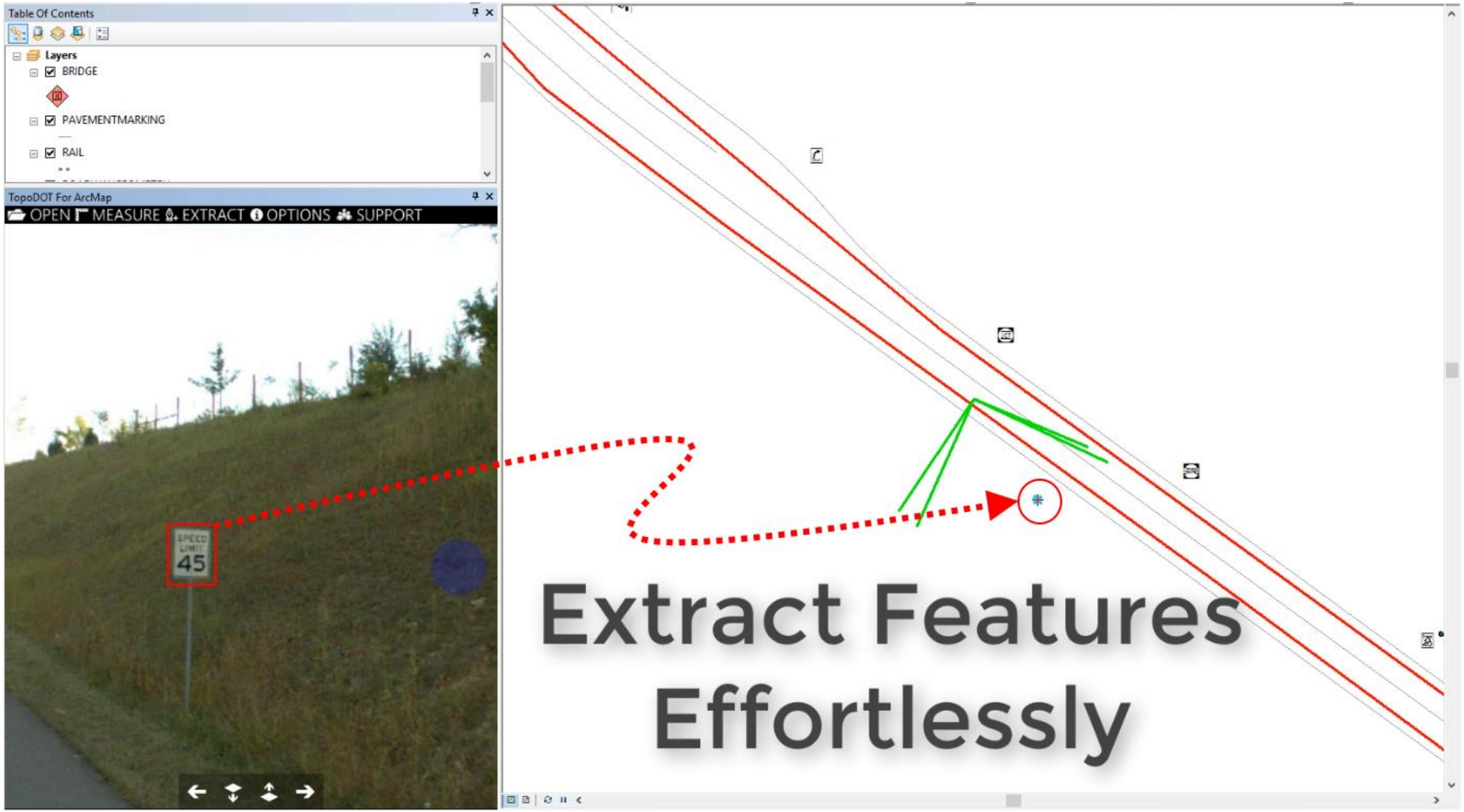
Now that we're in ArcGIS



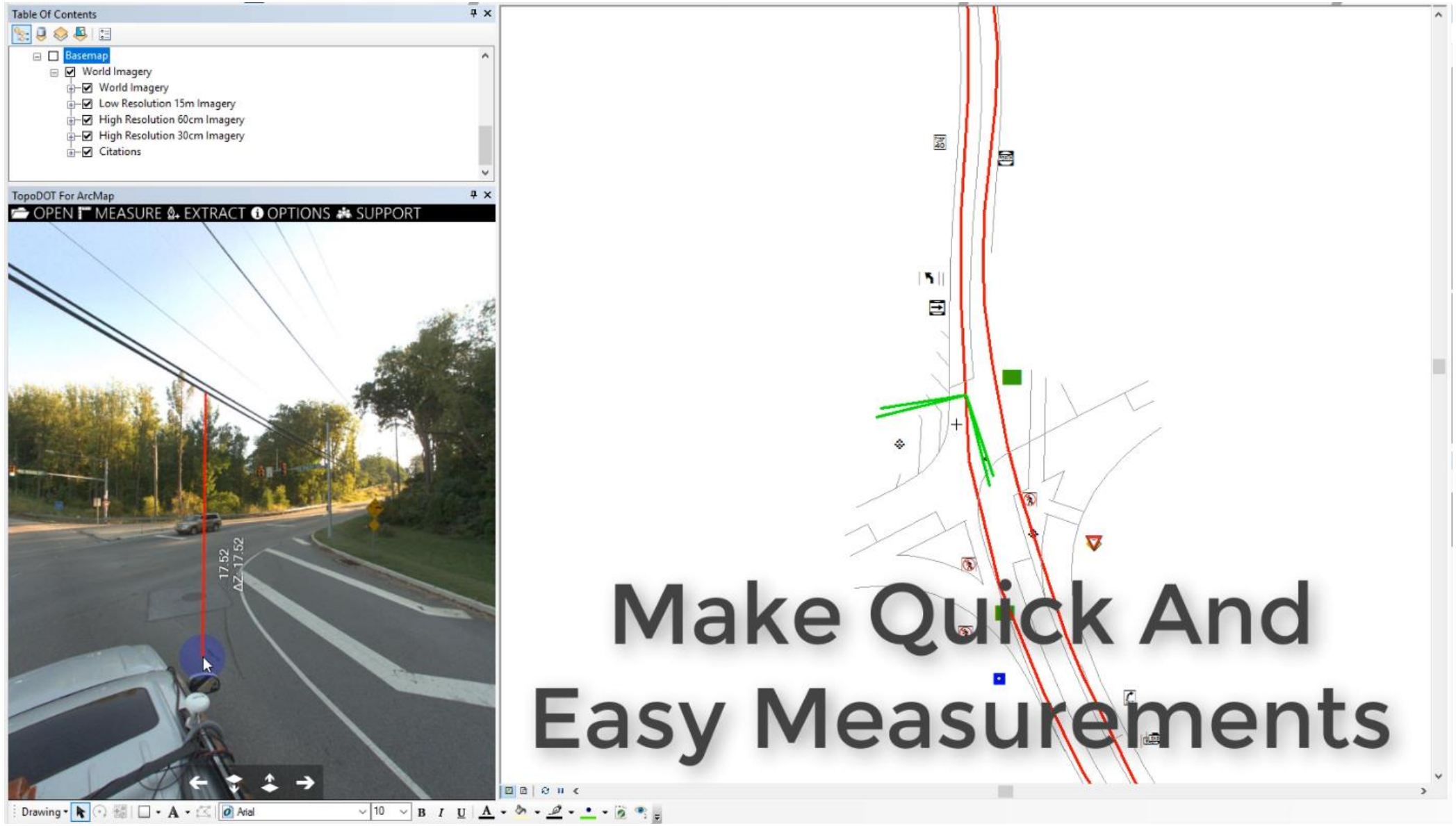
Navigate Through Images within ArcGIS



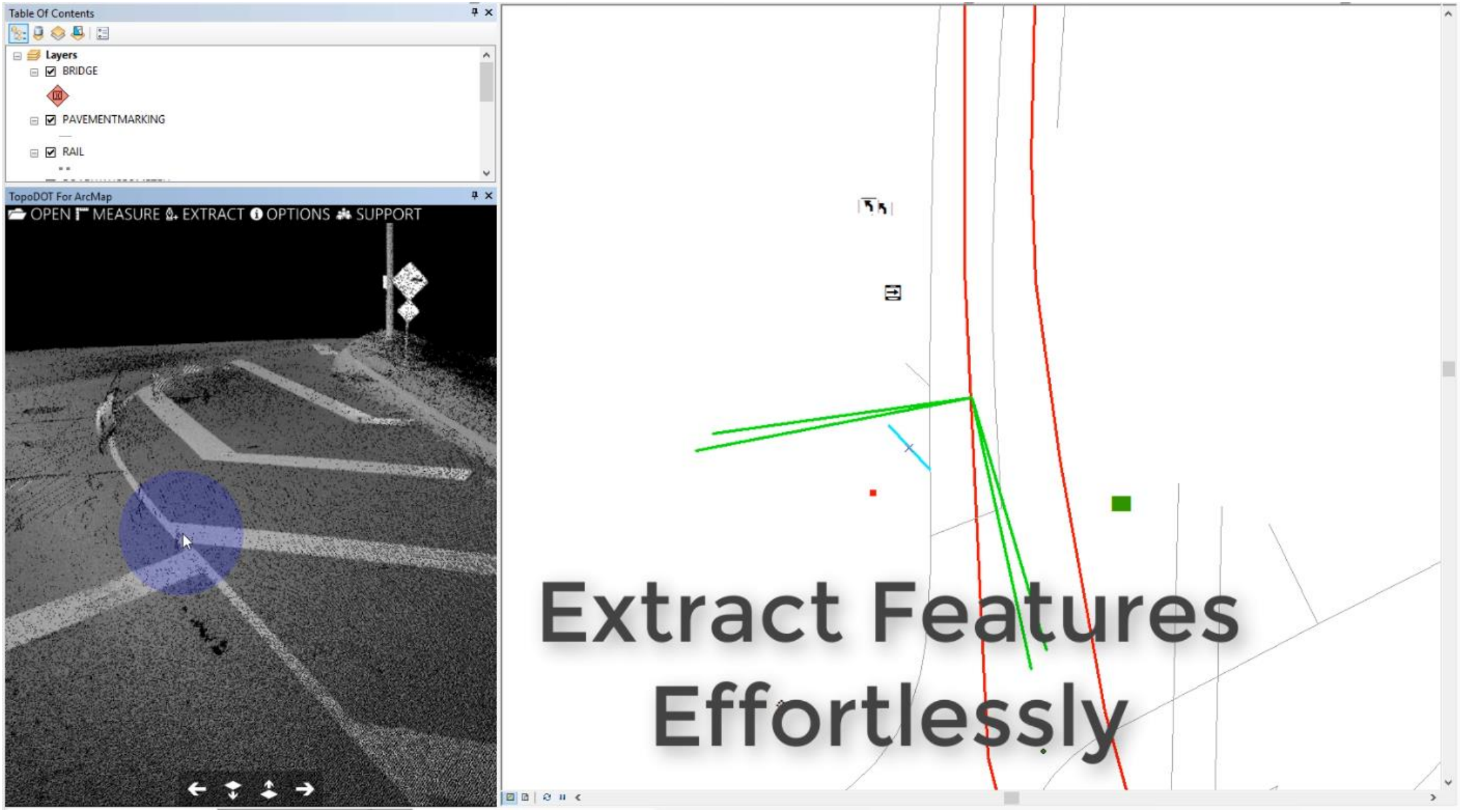
Locate Signage and Assets within ArcGIS



Measuring within ArcGIS



Extracting Polylines within ArcGIS



Asset Extraction Extremely Productive in Bentley Environment

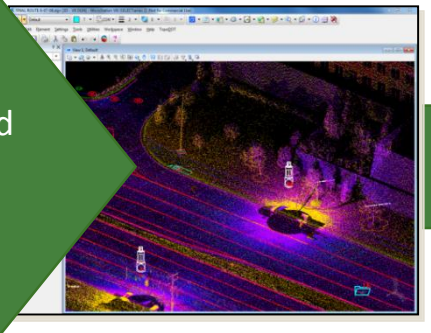
One more look at the Workflow

Sensor Data

LiDAR System Processing Software

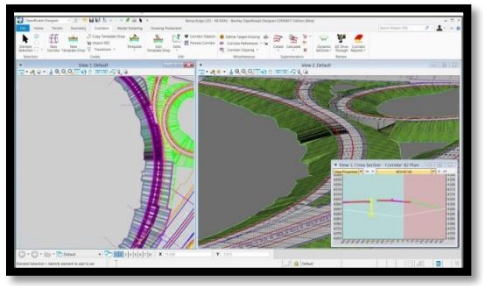
Point Cloud Images Control

TopoDOT®
MicroStation®



TopoDOT®
ESRI®

Deliverables



DPEG

CSV

TopoDOT® in ESRI

DPEG Demonstration VIDEO

QUESTIONS?

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