

Orbit: The Total Visualization Package

CEC Infrastructure Solutions Bryan Salsieder, GISP

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COMPANY PROFILE



Get Stuff Built Right Relationships | Communities | Families

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WHAT WE DO



- Transportation Design
- Surveying & Mapping
- Power Delivery
- Materials Testing
- Environmental Resources

- Bridge / Structural Design
- Construction Management
- Airport Design
- Land Development
- Mechanical / Electrical

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THE TEAM



Bryan Salsieder GIS Specialist



Bartley Estes LiDAR Manager



Tyler VanWinkle LiDAR Technician



Emily WIlliams LiDAR Technician

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MOBILE LIDAR

- Used mainly for high density, high accuracy corridor scans.
- CEC began using LiDAR in June 2012.
- Purchased our unit in January 2013.
- Optech LYNX M1 system attached to vehicle.
- 1 million points/sec at +/- 4mm accuracy.
- Data can be processed into highly accurate topographical drawings of breaklines, terrain modeling, drainage, and above ground utilities.
- Increasingly used for pavement condition analysis.



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PAVEMENT ANALYSIS



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OKLAHOMA | TEXAS



PAVEMENT ANALYSIS

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BUT WHAT ABOUT ESRI?





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GIS WEB INTERFACE











LADYBUG CAMERA











BENEFITS SO FAR

- Very quick turnaround for detailed imagery.
- Survey crews have up to date imagery from the field for reference, no longer using Google Street view which may be very outdated.
- Ability to create video fly throughs of roadway construction diversions to meet safety requirements.
- Colorize the scanned point clouds based on the imagery behind it.



ORBIT OVERVIEW

- Orbit GT is a software company based out of Belgium.
- Their prime focus is on 3D mapping solutions combining photography with scanned point clouds.
- An ESRI Silver Business Partner
- Software architecture that requires its own server to store LiDAR data and associated photographs.
- Data is hosted in-house in SQL Server and served on a secure port to be consumed by applications.
- Their software can handle big data very smoothly, perfect for our LiDAR scans and Ladybug photographs.
- Data can be published in HTML and Flash formats, and Plugins are available for ArcGIS, AutoCAD, & QGIS.





ORBIT SOFTWARE SUITE

CEC

- 3DM Content Manager program for combining panoramic images with the point cloud to create Runs and Projects.
- This works similar to ArcCatalog where files are managed, edited, turned into mosaics, and formatted.
- Ability to correct positional accuracy and have it affect the point cloud and image positions.





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ORBIT SOFTWARE SUITE

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- 3DM Publisher program with a browser based front end.
- Publications work similar to ArcGIS Services published from Server or Portal.
- Vector layers and basemaps are added to Publications as resources.
- Orbit Pavement Publication





ARCMAP ORBIT ADD-IN



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FUTURE PLANS

- 3DM Feature Extraction module for Orbit
- Site design and construction progress.
- Access to and development with the Orbit SDK.
- AutoCAD Plugin integration.
- Airport runway condition analysis.



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TEXAS

QUESTIONS?

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