

**Follow-up Q&A from the CE News Webcast Series:  
Bentley Civil Presents...  
Part 2: Leveraging LiDAR Data in Transportation Design**

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**Is TopoDOT a software available through [the Florida Department of Transportation]? Is it free?**

The TopoDOT software is available from Certainty 3D ([www.certainty3d.com](http://www.certainty3d.com); (407) 248-0160). Please contact Certainty 3D for pricing and availability.

**Does this line need to be inside the point cloud or can it extend beyond the limits of the cloud?**

No, it does not. It can extend beyond the limits.

**Can GPS data be imported into the software?**

GPS data can be imported into MicroStation, Power GEOPAK and Power InRoads, all of which TopoDOT runs on top.

**Is there an interface with GIS topographic data?**

Yes, through MicroStation, Power GEOPAK and Power InRoads.

**When defining the cantenary line at the two ends, does the program account for sag in the line?**

Yes.

**What version of Geopak are you using?**

V8i SELECTseries2

**We are running GEOPAK SS1. How do I get this TopoDOT function?**

TopoDOT can be purchased from Certainty 3D as indicated above.

**Similar to the Road tool, do you have an automation to find the low point or flow line?**

Yes, this is a capability within TopoDOT.

**Are these LiDAR files pretty big files?**

Yes, they average about 250MB each. They can be tiled into smaller pieces if need be.

**What challenges do you face fusing LiDAR data from different platforms such as aerial and mobile LiDAR?**

Matching the data at the interface points can be challenging. Smoothing the DTM where mobile LiDAR stops and aerial continues is a bit of an art.

**Using the 18-mile project, what time investment per mile was needed to extract the data you used?**

Close to 1,000 hours were spent. This includes significant time to learn and apply best practices for terrain and bridge modeling.

**Would like to know if it is possible to get extracts of this technology for our own presentations? If so, from whom?**

Please contact Ron Gant at Bentley Systems, [ron.gant@bentley.com](mailto:ron.gant@bentley.com).

**Does LiDAR typically require supplemental field survey?**

Yes, survey control is required in order to geometrically adjust the data and match project coordinates. Also, independent check shots should be collected.

**Does the Leica Scanstation C-10 output files work in TopoDot?**

Yes. Some conversion is needed.

**How are these tools integrated into BIM applications?**

BIM is a process and not a set of 'applications'. Bentley Civil software supports the processes including the development of intelligent 3D models to meet the needs of Building Information Modeling (BIM).

**Are trial versions of the program available with representative data sets to be able to evaluate?**

Please contact Certainty 3D as referenced above for trial versions of TopoDOT. If you are a Bentley SELECT subscriber you have access to trial versions of MicroStation, Power InRoads and Power GEOPAK through SELECT downloads.

**Do you have applications for airport planning & construction?**

Yes, Power GEOPAK and Power InRoads are widely used for airport design, planning and construction.

**How do the TopoDOT tools integrate with ProjectWise storage?**

It does not at this time.

**Is there a national "warehouse" of available LiDAR coverages being formed?**

Not to my knowledge.

**How many tools are in the V8i Point Cloud toolbar vs. what you get with TopoDOT? How much can you do with out-of-the-box V8i?**

MicroStation V8i Point Cloud tools are generic tools for importing, viewing and editing point clouds. TopoDOT adds specific functionality for civil engineering data acquisition as you saw in the demo.

**What is the accuracy of the data?**

This will depend on the level and frequency of field control.

**Is Bentley going to develop their own built in extraction/processing capabilities so add on is not required?**

Bentley may do some development in this area sometime in the future.

**Can you register the point cloud data in TopoDOT?**

This should be done in the native software that comes with the instrument.

**Is there a limit on the LiDAR data size that can be handled with MicroStation or in the drawing?**

The limiting factor at this point is hardware configuration.

**Can you please repeat how to obtain TopoDOT?**

See above.

**Could LiDAR be used to locate underground mines [that are] air and water filled?**

Static LiDAR has been used to map underground mines. Water filled would require a different instrument. Access would be a challenge.

**During data collection, what is the perpendicular distance from centerline that the LiDAR is able to collect?**

Depending on the instrument it is typically 100M to 300M.

**Can you project the sections being viewed to the sections produced by InRoads?**

TopoDOT can work with InRoads ALG data for orientation.

**[Is there a] recommended sensor to capture LIDAR data?**

No. There are many sensors for a variety of applications. LiDAR industry events would be the best way to determine the best sensor for a particular need.