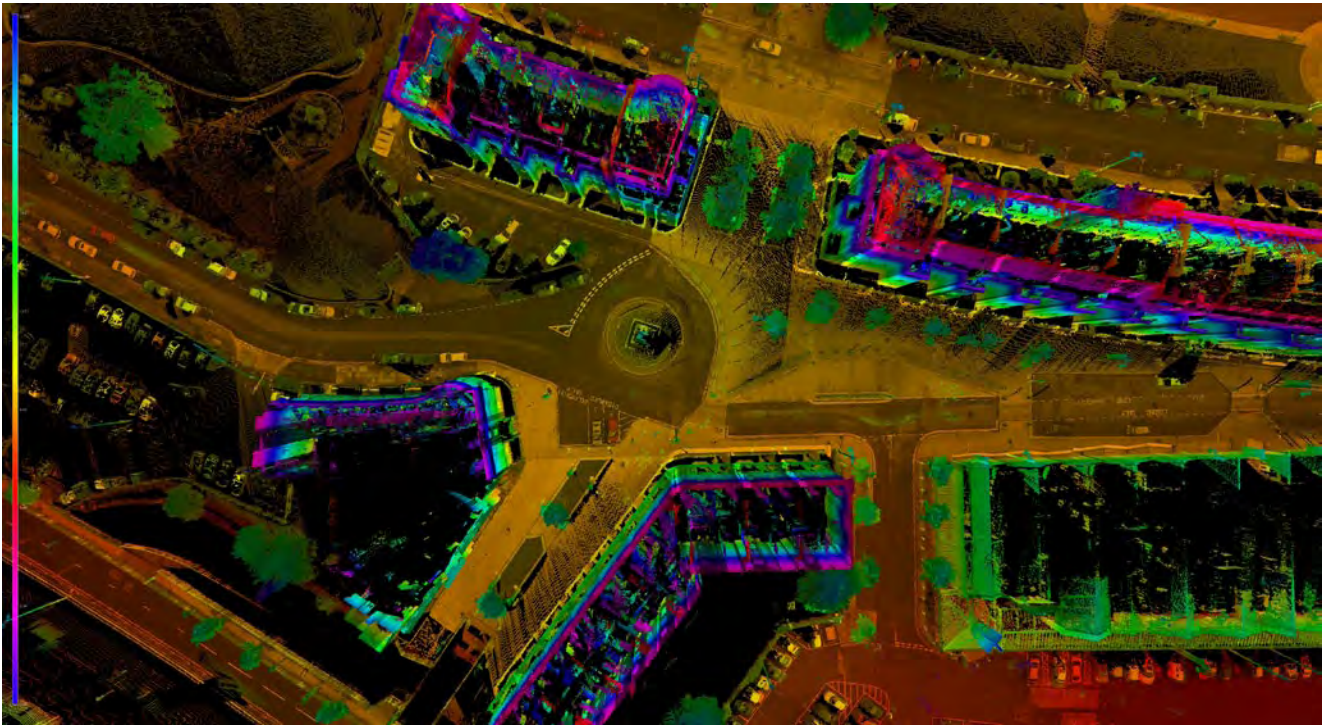




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## Can a new data exchange standard heal disconnected workflows?

**T**he new ASTM (American Society for Testing and Materials) E57 3D imaging data exchange standard sets out to heal the disconnected workflows surrounding 3D laser scanning and point cloud data exchange. It's a big ask, and many folks have high hopes for it—including me. But why is it needed? Can't all the software and hardware companies just agree to share their own file formats to achieve the same goal? Apparently not if a "new" file format is required to move data between scanners and different software products.

You see, very often a file format is all that ties a hardware user to the hardware vendor's software offering. In some cases the hardware vendor fears that by sharing its file format, it will no longer be able to force its own software upon its own captive userbase. By sharing its file format it fears exposure to increased competitive pressures surrounding performance, feature set, and price. A scary prospect for many who got fat and happy selling the only solution available for a problem they in essence created.

But not all vendors want to see their data translated during exchange, some

have a much more user-first philosophy to healing disconnected workflows. I remember a distinguished Bentley colleague of mine once saying that "data translation is a poor relation to interoperability," claiming that translation was "a last resort" for enabling data exchange workflows. Of course he was right; translation is rarely completed without some loss of data, whereas interoperability (by definition) enables loss-less exchange of data rich information for the purposes of reuse.

According to Wikipedia there are essentially two types of interoperability:

“syntactic interoperability”—where two or more systems are capable of communicating for the purpose of exchanging data—and “semantic interoperability”—where any number of systems can automatically interpret the information exchanged in a meaningful and accurate way in order to produce useful results as defined by the end users of both systems.

In simple English, syntactical interoperability is enabled when hardware and software vendors configure their products to read and write semantically rich and unambiguously defined data using a common file format to guarantee that the data sent is the same data that is

“Common file formats guarantee that the data sent is the same as that received and understood.”

received and understood. So how does ASTM E57 set out to streamline and connect the data exchange workflows surrounding 3D laser scanning? Pretty much the only way it can; by creating a superset of all 3D scan data types—using an agreed exchange file format—and by defining the syntax required of hardware and software vendors so they may configure their products to import and export data.

Already a number of hardware and software vendors have thrown their names into the hat to support this new ASTM E57 standard. The last time I checked they included FARO, IntelliSum, Inovx, Kubit, Leica Geosystems, Optech, Pointools, Quantapoint, Riegl, Trimble, and Zoller+Fröhlich. By supporting ASTM E57 each vendor promises to import and export 3D laser scan data from their own applications into this new ASTM E57 file format so that data can be exchanged with other appropriately configured software products.

Here at Pointools we are no strangers to interoperability as we already license our Pointools POD file format to a number of 3rd party vendors through our Pointools Vortex platform. This commitment is born out of the knowledge that the average user has a number of apps loaded on their desktop each one offering slightly different capabilities for different stages in their workflow. Without reusable file formats the poor user has to endure repeated data translation headaches as models are moved between software platforms throughout the workflow which leads to huge and unacceptable operational inefficiency.

Still while there remain some vendors who won't share, we all have to look to new avenues to enable our users to keep their data flowing in their preferred software directions. Hence, at Pointools we are actively working to fold the ASTM E57 standard into our software for commercial release this year; extending our users' ability to import 3D laser scan data from even more sources and natively reuse it as a Pointools POD file across the broadest portfolio of software applications. ■

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