

## 5 QUESTIONS TO... JEFF TURGEON, TRIMBLE

# Transformative trends in laser scanning



In this Q&A, we asked Trimble's Jeff Turgeon to share his insights into the current state of the sector and his expectations for the future.

***Looking at terrestrial laser scanners, what do you consider to be the biggest improvement over the last five years?***

In the past five years, field software advancements, such as with Trimble

Perspective, have revolutionized the laser scanning industry. Historically, laser scanning projects required employees with significant experience to understand the strategies for a successful field campaign. Today, the workflow has been simplified by enabling immediate point cloud visualization, on-the-fly targetless registration and real-time data analysis. This advancement is shifting part of the office workflow into the field, optimizing on-site productivity and providing confidence in results before leaving the jobsite.

***One issue with laser scanners of any type is the massive amounts of data they collect. How do you deal with that?***

There are several strategies to maintain a streamlined laser scanning workflow and avoid big data delays. With Trimble scanners, your data is collected using a .tzc file format. This compressed format has a smaller storage requirement which is faster for data transfer between devices. On the software side, you can choose to extract specific points for a given part of the workflow, filter unwanted points and decimate point clouds in overly dense areas of collection.

***Laser scans require georeferencing. How do you solve this issue with the latest generation of laser scanners, especially indoors?***

Georeferencing is a critical element in our laser scanning portfolio. The Trimble X-series laser scanners contain an onboard laser pointer specifically designed to observe georeferencing tie points. These observed points can be matched with survey control in Trimble Perspective, georeferencing your project in the field. Trimble RealWorks office software goes a step further, allowing you to set multiple reference frames within the same project. One reference frame might allow you to work from a global coordinate system, while another can be established locally. This is commonly used to set a local system within a building, defining the origin point to a building corner and aligning a building wall to a cartesian axis.

***The laser scanning workflow is often time-intensive due to many data points but also in terms of editing and point classification. How does Trimble support this workflow?***

Preparing points clouds for deliverable creation is often one of the most time-consuming steps in a laser scanning workflow. Trimble addresses this with easy-to-use processes such as automatic registration, AI-assisted segmentation, and classification trained with machine learning. Trimble Business Center recently introduced an updated Deep Learning Point Cloud Classification tool that allows users to train their own custom classes. Once a custom class is trained, it can be used to automatically classify that feature in all future projects.

***Looking towards the future, which developments in laser scanning and the associated processing software can we expect from Trimble?***

Future laser scanning developments will focus on building smarter, faster and better connected workflows to help our customers build efficiency in their business and develop new opportunities. The Trimble Dimensions 2023 user conference showcased several such advancements in areas of artificial intelligence (AI), cloud-based environments and inter-software connections. These areas will continue to progress, reducing the time required to complete laser scanning projects while unlocking more of the data collected.

[For more information, see here.](#)

*Jeff Turgeon is the technical product manager for 3D laser scanning software at Trimble, the product manager for Trimble RealWorks and*

*Trimble Perspective, and the vertical lead for the scanning module within Trimble Business Center. He was attracted to the geospatial industry for its technological advancements, problem-solving complexity, global relevance and commitment to improving efficiency and sustainability across various sectors.*



Jeff Turgeon, Trimble.

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