



## Wide Range of Solutions

Here at BuildingPoint Mid-America we offer a wide range of layout solutions to help fit your needs as well as your price point.

We also offer a variety of financing and lease options to help reduce your initial investment in our offered technology.

### Customer Quote

"The Missouri scan was our most successful scan yet."



## In this issue

Concrete Scanning **P.1**

X7 Scanner self-leveling **P.2**

Introducing the T100 Tablet **P.3**

## Technology "flattens" the concrete curve

Pouring and placing concrete for flatwork or vertical elements of a building has always been one of my favorite construction processes to watch be installed.

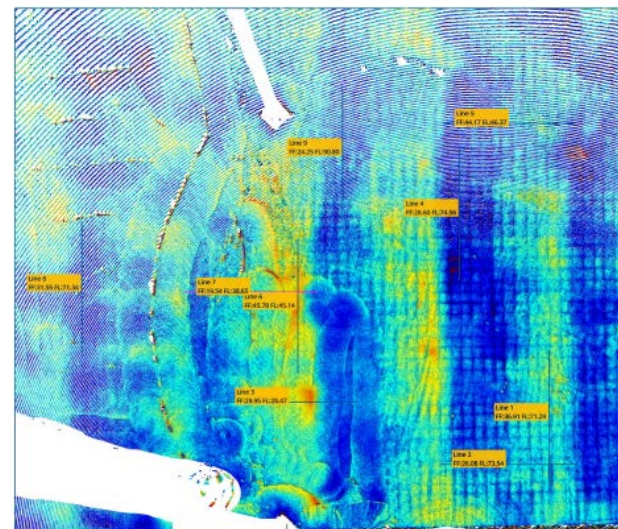
All the hours spent digging, scraping and proof rolling the ground, then establishing building corners installing below grade utilities, installing reinforcing steel, forming areas to contain the concrete pour. Then pour day happens, these activities most often occur in the wee hours of the morning or sometimes during the midnight shift. All in order to create optimal mix times, chemistry, and atmospheric conditions. The concrete is poured out from trucks and bugged or pumped into place, then trade workers scurry to place, level, flatten and shine that concrete floor. Then after the concrete is setup a test is done, to determine how flat and level (fF/fL) the floor was installed, typically days later.

If it is not installed in accordance with the spec the floor has to be replaced, ground or have a topping placed atop it. No doubt the floor will be compromised for future use over the life of the building. Over the course of my life I have heard many remarks about inferior flatwork, yet I never witnessed someone identify a true mechanism to fix it in a proactive manner.

That is until now. In 2020 Trimble came out with the X7 Laser Scanner. It has no doubt been disruptive in the market because of its capabilities and versatility. However, the software version 5.8 of FieldLink now adds in the ability to view floor data live while crews are working. Cycle a scan of the pour in less than 4 minutes, process it on the device and within five minutes have a map with layout markers of high and low areas of the floor.

Then get out and "cut the bumps" then trowel the floor and scan it again, this time running a fF / fL analysis with a report to document the condition of the finished floor. This device will "flat out" change how concrete floors and shafts are placed and documented for years to come.

C. Bell



Line 1

	Overall	90% Conf. Interval	MLV Pass/Fail
FF	36.91	25.37 - 48.44	Pass
FL	71.29	41.09 - 101.49	Pass



## Trimble X7 Laser Scanner

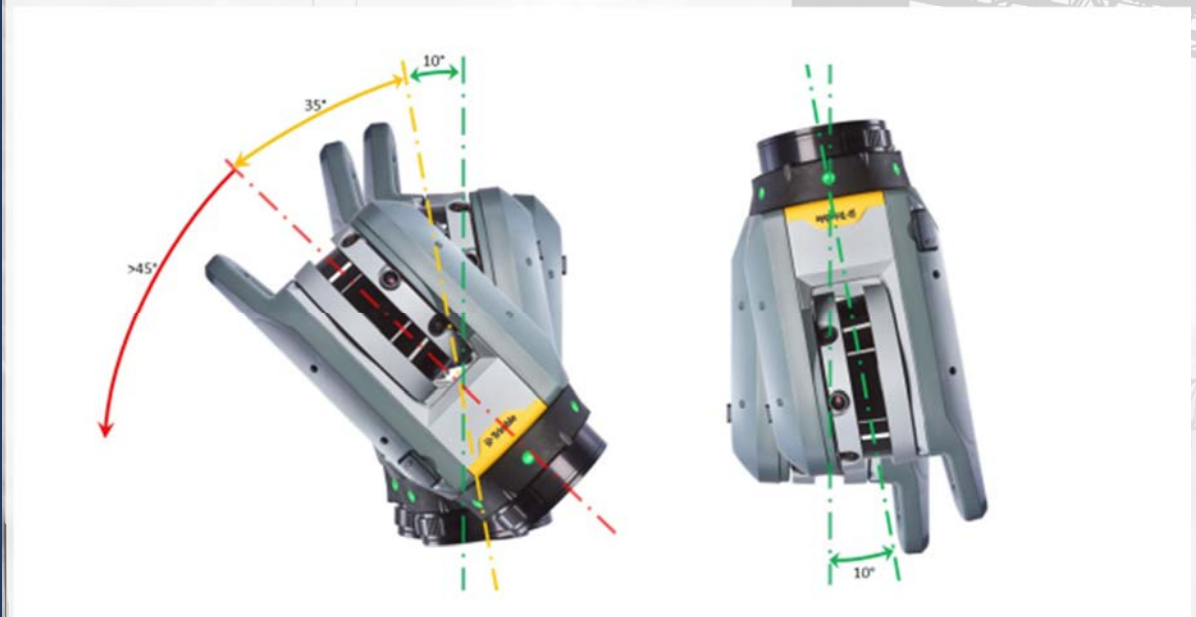
High-speed 3D laser scanning system with new innovations to simplify adoption, increase efficiency and provide confidence in the field.

- In-field registration
- Image capture
- Full auto-calibration of range and angular systems with no necessary user interaction
- 2 Year standard warranty
- Annual calibration not necessary (integrated into the workflow of the hardware)
- Automatic & manual registration, refinement and reporting from the tablet
- In-field documentation
- Compare model and scan data in the field
- Surface analysis tools for horizontal or vertical surfaces
- Lightweight and agile
- Export: TDX, TZF, E57, PTX, RCP, LAS & POD files

The Trimble X7 design is unique in both form and function, integrating a survey-grade servo drive with high-speed scanning, automatic self-leveling and an integrated camera system to deliver exceptional reliability and productivity in the field

### How is Trimble X7 self-leveling different from other scanners?

The Trimble X7 self-leveling technology provides both full automation for quick setup and survey-grade accuracy, a performance combination not found in other systems. The scanner achieves survey-grade tilt compensation if the instrument is setup within a working range up to 10° from either side of its vertical axis for upright and upside-down scans. Other scanners either can't achieve survey-grade accuracy or must be manually leveled within a working range of less than 1 or 2° to achieve survey-grade accuracy, requiring more expertise and time in the field.



### What's unique about the Trimble X7 integrated camera system?

The X7 integrates three cameras aligned to the mirror assembly, each with a specific field of view to enable faster and more productive image capture than systems with a single camera. The operator may capture 15 images in 1 minute or 30 images in 2 minutes for scan colorization and high-quality panoramas. The scanner can apply white balance corrections for indoor and outdoor settings or the Perspective field software can automatically apply corrections when lighting conditions vary. There is also an HDR option to achieve a higher range of luminance in extremely dark or bright environments.

For detailed information about the unique design and technical innovations of the Trimble X7, download the complete white paper <https://geospatial.trimble.com/blog/trimble-x7-unique-design-extra-functionality>

## Preserving History – with modern technology

### The BPMA Team found new ways that we could use our tools and experience to help document historic and prominent locations

After a couple of months trying to find a way that we could leverage our Trimble tools to help in an ethical or social way we were approached by the Architecture & Design department of a local St. Louis area university. It started simple and benign as a demonstration of what and how a Trimble scanner works. Then how to utilize the data, then some time spent sharing and coordinating the data.



This team of students and one highly motivated professor were doing work to document every detail of a Frank Lloyd Wright house near the Purdue University campus in Indiana. After we met with them a couple of times in St. Louis they asked if we would be interested in attending along with them on a project site visit. Two of us made the journey up there and we took both the new Trimble X7 as well as the TX8 laser scanners. We spent in total 4 hours on the premises capturing both interior and exterior scans of every room, every exterior elevation and a few of the unique interior and exterior elements.

Our team then took that data and processed it all into a complete document that their team could use to recreate this beautiful structure electronically. Their team is still in the process but creating some magical data. After we returned home we then did the same process on another Frank Lloyd Wright house that is located in a park in our own St. Louis County.



We completed the scans and refined the data at no charge to the facilities or the local University. We did this because for one we got to be part of a behind the scenes tour of these houses, which my Architect grandfather would have loved to have been at. The other reason is that this data is going to be leveraged to make certain that these design and craftsmanship works of art can be maintained for our future generations to witness as well. Special thanks to the teams from the Kraus House and the Sumara House.



## This month's Author

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America

CM-BIM instructor for AGC

Ironman Triathlete

Dog lover

Self-proclaimed construction geek

## What's new or coming soon

### • New Hardware

- Trimble is in the process of releasing the T100 tablet in the month of February
- FieldLink Version 5.8 (available to all current tablets with a current software license)
- Trimble Connect for HoloLens Version 3.3 (available through the Windows storefront)

### • New BPMA Videos (all available on our YouTube channel)

- VDC Service Offering videos
- Routine Maintenance videos for layout gear
  - Bipod maintenance
  - Tripod and tribrach maintenance
  - layout pole maintenance
- Mixed Reality/Augmented Reality and Virtual Reality videos
- X7 Scanner demonstration for surface analysis

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