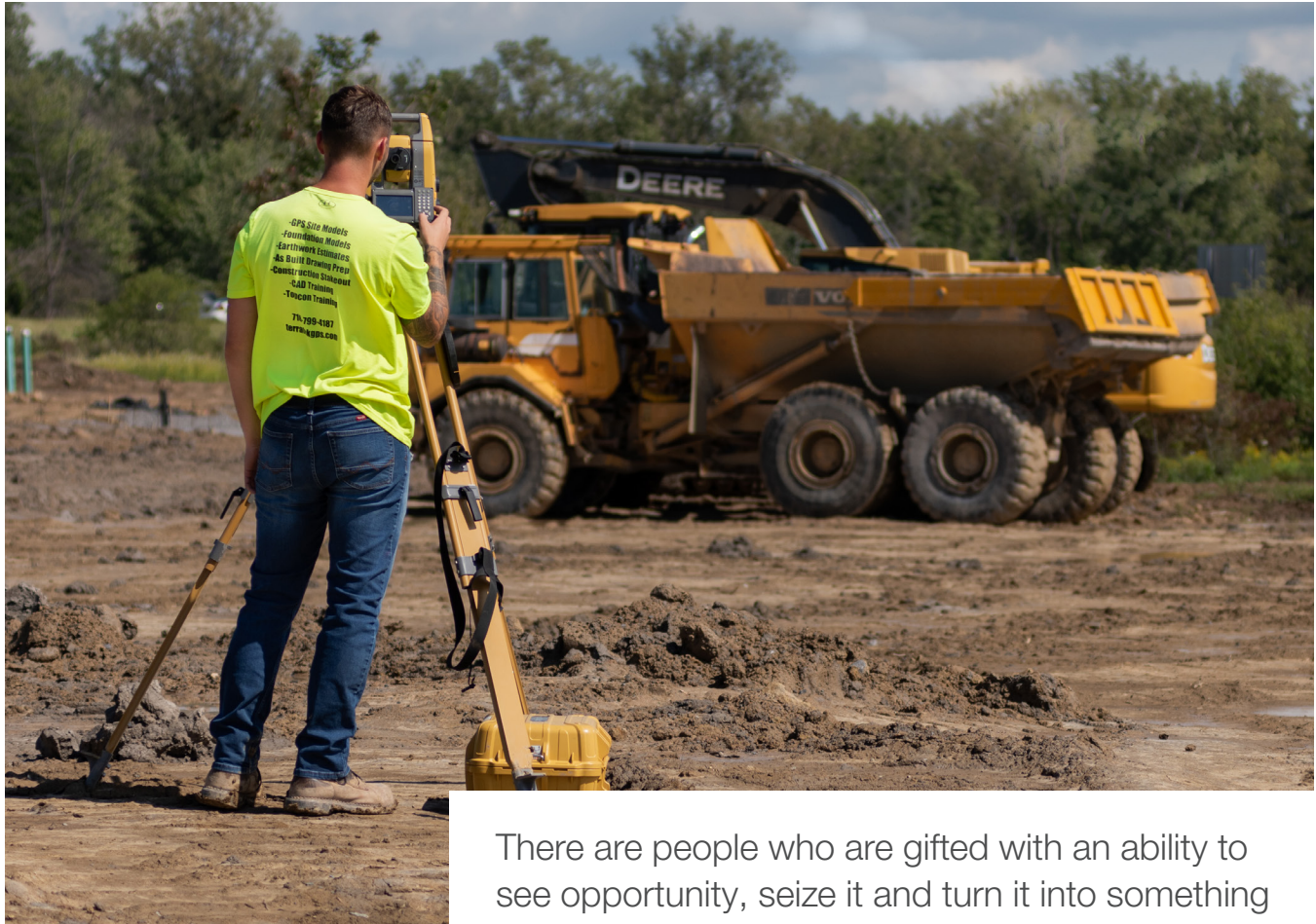




# S.O.S. for GPS

Western New York company has found success providing survey solutions and helping others navigate new technology



## Company

Terratek GPS Modeling, Buffalo, New York

## Project

Using a range of Topcon solutions to establish and grow a startup company

## Topcon Products

GT-500 robotic total station, HiPer VR receiver, FC-5000 field computer, LN-100 layout navigator and MAGNET software

## Topcon Dealer

Admar Positioning Systems  
Buffalo, New York

There are people who are gifted with an ability to see opportunity, seize it and turn it into something positive, even life-changing. Tim Arnold is one of those people. Seeing a need within the Western New York construction community for someone to take the helm of the GPS and survey-related facets of their jobs, he established Terratek GPS Modeling. Today, his company, along with the range of services offered and his standing with his clients, have grown exponentially. Arnold didn't just seize the day, he solidified his future.

Fresh out of college and armed with a degree in civil engineering, Arnold worked for a couple of firms before starting Terratek GPS in 2017. His situation could not have been better for a startup. Though the larger contractors in the WNY area generally had their own in-house GPS support, small to mid-size companies were lacking in that area.

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“I started out building models for site work and concrete contractors, but quickly added earthwork takeoffs, as-built drawing prep — basically everything a contractor with GPS capability needed,” he said. “I was the only company in the area offering such support; my business was off and running.”

Fast-forward to the present and Terratek has added staff, serves clients statewide and beyond, and has further beefed up their capabilities menu. In addition to his survey skills, the tools Arnold brings include a GT-500 robotic total station, HiPer VR receiver, FC-5000 field computer, LN-100 layout navigator and MAGNET software.

“We also now offer CAD training, train client personnel on Topcon equipment and excel at quantity analysis,” he said. “Two factors are driving that last push: many projects — including all NYSDOT jobs — base payment on quantities; and a deeper dive into the engineer’s quantity estimates often uncovers costly errors. For one client I work closely with, we measure everything we do and report it all by item number. If there is an overage, we bill it and provide my drawings and the model as the necessary backup. That’s a valuable resource to bring to a client.”



Like most survey personnel, once he steps on site, Arnold is barraged with requests which take him away from the work at hand. Meeting those requests used to impact productivity. That changed in 2019 with the addition of hybrid positioning, a software-based solution that allows his GT-500 total station to provide capabilities for both GNSS positioning and optical robotic measurement on one rover pole. With it, Arnold said, onsite distractions no longer became an issue.

“We recently did a residential development with a huge retention pond. Though I was busy laying out for curb with the robotic unit, I was asked to measure for the bottom of the pond. Switching gears like that used to be a time-consuming effort. With the hybrid solution, however, I walked over and, with the press of a button, a prism icon on my controller changed, indicating that I was now using GPS. It’s that easy to switch between optical and GPS.”



“ Anticipating trouble catching and keeping a GPS signal, I brought the hybrid solution to that job. Doing so, probably shaved 10-15 hours off the time we were out there. ”

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He also found the hybrid solution great for dealing with loss of signal caused by obstructions, citing a recent layout project for a school with a small courtyard in the center. "It was small enough that, if I did a 45° angle, I was hitting top of building," he said. "Anticipating trouble catching and keeping a GPS signal, I brought the hybrid solution to that job. Doing so, probably shaved 10-15 hours off our time out there."

He said he cannot overstate how easy it was to build a business, largely because the products Topcon makes available seem geared for an entrepreneurial, engineering-background type like him.

"Everything, from their level of support to reasonable pricing to the inherent ease of use, made it easy for me to get started and quickly dominate in this area. Without all that, the future wouldn't look anywhere near as bright for us as it does now."



A [full-length version](#) of this story is on the Topcon website.



Visit the [Topcon YouTube channel](#) to watch videos on the solutions featured in this TAW.

