Modern Construction: A Firsthand Account of Technology in the Field

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Technology versus tradition has become a central theme of the construction industry, as time-honored practices clash with the constant communication of better building basics. Innovation providers have touted each new bell and whistle as the "next big thing" driving industry breakthroughs, with a dose of healthy skepticism toward a competitor's way of gains. Yet, in the mix, we find objective minds, un-swayed by the seasoned versus state-of-the-art viewpoints, sifting through a competitive, tech-driven landscape, asking the simple question, "How will any of this directly benefit me?" Early-adopters cannot amount to everyone, and so the impartial majority in this industry will often find the quickest and most clear-cut of opinions from the ranks of their peers. It is through such first-hand accounts of the use of technology that the most accurate glimpse of its effects can be seen.

Aaron Graven, Field Engineer & Trimble Technology Operator with Lake Erie Electric, Inc., has a compelling history of using construction technology. Established in 1952, Lake Erie Electric, Inc., has grown to become an industry-defining leader in electrical construction, with ten offices spread throughout Ohio and Michigan. Their clients include those with projects in the commercial, healthcare, manufacturing, industrial, automotive, energy, steel, government, educational and database industries. In his role with Lake Erie Electric, Inc., Mr. Graven is responsible for on-site data input and troubleshooting, deciphering information provided from engineers in the office and analyzing its impacts on construction layout at the jobsite. Trimble positioning technology has proved a game-changing and vital aspect to project success.

"We started using Trimble construction layout technology about four years ago when we acquired a robotic total station and now we're even using GNSS (GPS Receivers)," said Mr. Graven. He went on to explain the benefits he's seen as a result of using these solutions. "Knowing exactly how plans in the office relate to points and progress in the field has alone saved us a ton in terms of reduced rework and material wastage. There's obvious benefits to a one-man layout crew with a robotic total station, but the GNSS system, with its tilt-compensation in point gathering, has sped up projects immensely. BuildingPoint Ohio Valley and their expertise in the Trimble solutions they provide has been truly beneficial to our work. While the robot is great indoors, the SPS986 we've got is excellent outdoors because, as long as you've got a view of the sky, you don't have to worry about line-of-sight being a problem. I'm able to gather points for as-builts on big power projects without worrying about the headaches of vibration and sight interference on a busy jobsite. With Trimble's Field Link Software, it's also easy to keep everyone informed and up-to-date with real-time reports and documentation."

Continuing forward and building upon the success of their technology, Mr. Graven also mentioned how Lake Erie Electric, Inc. is making use of Building Information Modeling (BIM). “We’re able to go back and forth between virtual models and the real-world through use of our Trimble positioning hardware and software, then use that precise data to do accurate prefab. It saves on labor and material, and also speeds up the actual construction process once on-site.” He explained how this keeps them competitive and professional in an environment destined to continue advancing through the use of these developments. “The expectations, budgets and timeframes of today’s projects really push construction capabilities to the limit. While BIM and layout tech helps us work faster and more efficiently, it also keeps you accountable. Everyone has to sign off on their portion of work on a project, and that ensures the integrity and quality of each task. This is why all parties are really seeing the benefits of technology. I believe soon, everything will be BIM-designed. It’s going to be an industry requirement.”

It’s through the experience and insights of construction professionals such as Mr. Graven that the true worth of construction innovations can be seen. The technology that matters most is that which solves the immediate needs of those in the industry and elevates the way they work. Those who pay attention to and learn from the success of others can themselves reap the same benefits and carve a successful path to the future, while those too stubborn to change will ultimately fade away. One thing is for certain, the construction industry will remain competitive, and the advantages of proven technology will continue to give companies the edge. That is simply the tradition of things.

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