

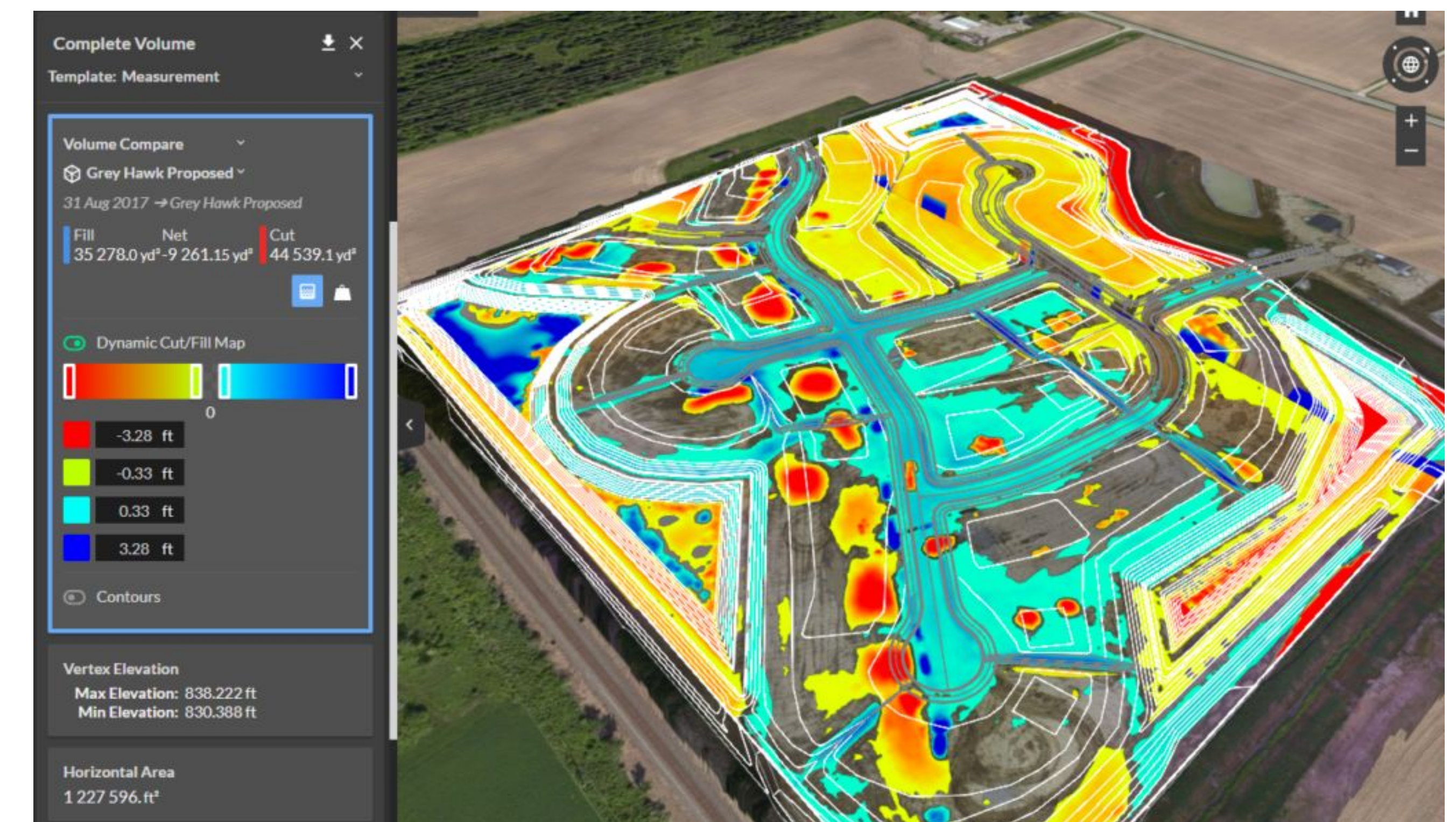
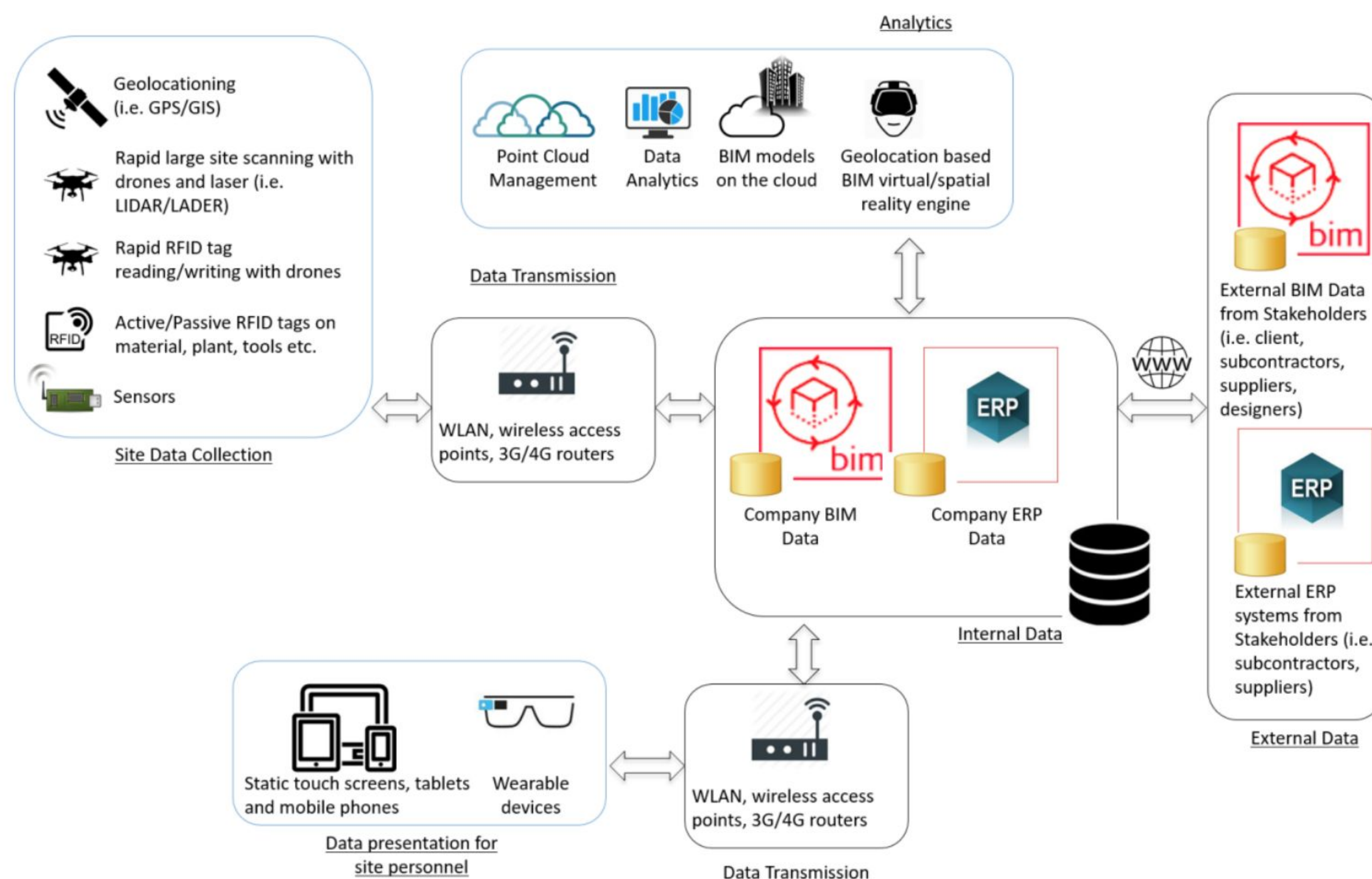
A Case Study on the Use of Drones on Heavy Civil Construction Projects

Bill Devers

Even though the construction industry is known for being behind the curve in adopting new technologies for change, construction professionals are constantly striving for ways to save money and improve efficiency. The emergence of drone technology in recent years has sparked new interest among these professionals for those exact reasons. These flying machines offer numerous benefits to construction companies such as bypassing traditional surveying methods, using photogrammetry to create 3D models used for estimating quantities, improving team communication, ensuring worker safety, increasing owner satisfaction, among other benefits. In this case study, personal interviews will be conducted on a single construction company in order to evaluate these potential benefits. After analyzing these interviews, this report learns that drones indeed offer actionable information in the form of computer generated cut and fill quantities, effective jobsite monitoring, improved team transparency and awareness, increased owner awareness and satisfaction, cost savings in the form of legal dispute avoidance, and improved planning capabilities reflected by a more accurate schedule.

"It's a really easy process. You just set up your flight in the app on your iPad and it flies automatically."

-Hasan Sume, Ghilotti Bros., Inc.



Benefits

- More accurate quantities
- Improved planning capabilities
- Better team communication
- Cost savings
- Quick flight times
- Easy to use

Challenges

- Figuring out which software works best
- Acquiring pilot license
- Working around objects that may impair drone sensor accuracy