

Optimizing Equipment Technology

BY JORDAN REBER



Equipment is the workhorse of the construction industry. Literally, equipment replaced horses. And for the last hundred years, equipment has made the impossible, possible — improving our strength, speed and capabilities exponentially. Today, we still need to move, lift, dig and haul to finish any construction job, but we're just beginning to understand the potential of machine technology as a catalyst for operational excellence. In order to capitalize on the opportunity, we need to re-think technology on the jobsite.

Technology is everywhere and can apply to any machine, with what seems like unlimited potential for tracking, automating and optimizing performance. So why aren't we seeing a greater lift in overall productivity and performance in construction? According to the KPMG 2017 Global Construction Survey, 95 per cent of more than 200 global senior leaders from leading construction companies think technology/innovation will significantly change their business, but a mere 5 per cent view their organizations as "cutting edge" when it comes to technology.

Technology gives us the ability to capture and transmit information about the job. When combined with other information available throughout the operation, we get a holistic view of how the entire system is working. Having visibility to the total operation allows companies to make improvements to optimize performance.

Telematics: the foundation of a connected jobsite

Better informed jobsite planning starts with connected machines, giving visibility to equipment hours and location, condition monitoring, idle time and maintenance schedules. Technology can be applied to all makes and models and

the right technology partner can provide the data analytics expertise to increase efficiencies across the operation. This real time, accurate data gives companies a competitive edge by providing a tool to optimize jobsite efficiency.

Improving precision, accuracy and performance

A few key technologies are starting to get traction, changing the construction industry and the way we work.

Better informed jobsite planning starts with connected machines...

Machine control not a product but a process

Machine control offers the most immediate benefits to earthmoving applications — better fuel efficiency, lower operating costs, geo-location and data collection. It uses satellite data to pinpoint locations and assess grade, providing greater efficiencies, safety measures with an almost immediate return on investment.

Grade control, taking the guesswork out of earth moving

Even the smallest variance in the grade can have a huge impact on timing, accuracy and profitability. 2D and 3D grade control for dozers, excavators, motor graders, scrapers and wheel loaders increases accuracy allowing for more precise

VisionLink: Site operators using the VisionLink black box (telematics box) that is installed in the cab of the machine. VisionLink provides a unified view of health, location and productivity of the entire fleet, regardless of fleet size or equipment manufacturer.

measurements which is critical when determining how much dirt to cut or fill, and can mean the difference between saving or losing money on a job.

Site surveying reduce costs and eliminate re-work

Enhancing the accuracy and speed of the surveying and design process is one of the simplest ways to fast track a project. By streamlining the work you will be able to better match equipment to the jobsite task, starting the process of fleet optimization even before machines are brought to site. By combining survey data with 3D design models and machine control, you can also increase the efficiency and productivity of a site, saving time and money by moving the right amount of material, at the right location, while logging the work in real-time.

Drone technology improves visibility and accuracy on the jobsite

Imagery and data captured using drones is transforming the way jobsites are designed and surveyed. Drone-based solutions survey with a 350X higher survey resolution and up to 50X faster than traditional methods. Depending on the jobsite complexity and reporting requirements, drones can capture data and imagery, automating reports for a whole range of tasks including stockpile management, haul road maintenance, cut and fill balances and much more.

Data: Monitor, measure, apply the knowledge

Keeping up with the pace of change in technology is a challenge for everyone, regardless of industry or size of business. But knowing what technology to use, which data to collect and how to apply that information is the greatest challenge facing companies today. With expert advice, companies can make technology work for their businesses. It is how machine technology meets its potential that companies start to see the true impact of performance optimization through increased efficiencies, productivity and profitability. **CB**

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