



## Heavy/Highway Tech Part One – What to Expect

*By Christian Burger*

Much of the IT buzz these days seems to revolve around GCs and some of the trades. While there is much going on in their world, there are also a number of technology advancements for civil and heavy/highway contractors. New solutions are quickly advancing and being deployed for trucking, material management, and equipment management.

This article is the first in a two-part series which examines the developments occurring in the heavy/highway marketplace. Part two will look at how and why contractors should be paying attention to these developments.

### **IT Trends**

GPS, mobile, telematics, and cloud-computing are a few of the technologies that have emerged and are in the process of being deployed in Heavy Construction. Application developers are using these technologies to build more efficient ways of getting material to plants and jobsites, track and pay truckers, better maintain equipment, track fuel, operate safely, protect assets, and ultimately handle the accounting. Interestingly, only a few of these developments are changing the underlying processes while most are simply automating an existing (manual) process that has been around for decades.

### **Trucking**

Quite a number of truck tracking solutions have hit the market recently while some of the older solutions are gaining prominence. GPS-based applications are allowing dispatchers or foremen in the field the ability to “order” trucks to plants to pick up material from the plant and have it delivered. Some of these apps allow for reporting on trucking efficiency while others are concerned more with calculating the obligation or cost of the haul and sending the payable amount to your ERP system for payment. The contractors that have deployed this seem very pleased with the visibility they get into their hauling process, reducing wait time, overtime, and overall inefficiency.

## **Productivity**

Contractors have long been concerned with labor and equipment productivity. Yet, for the longest time, their systems were unable to keep pace and deliver timely readings on productivity to foremen and superintendents in the field. Because ERP solutions seemed unable to deliver on this need, the estimating solutions took it upon themselves to develop a “sidecar” application that works in conjunction with their estimating solution.

Now, the foreman in the field can enter time and production quantities and receive immediate feedback on their production for the day. The equipment hours, man-hours, and production are delivered to the ERP system for downstream processing (e.g. payroll). This technology has been around for some time now and is widely deployed. For those still estimating on spreadsheets, this is one of several compelling reasons to reconsider the deployment of these integrated solutions. There is a lot of competition in this space right now, and there is continued concern over truckers willingness to carry a beacon or have a phone app that “tracks” them.

## **Drones**

Drones have been in place in the industry for a while taking photos of aggregate stockpiles in order to get accurate inventory counts on a more regular and economic basis. They are also being used to measure production on long pipeline or utility projects where regular measurement can prove expensive or challenging.

## **Fuel**

There have been a number of mobile solutions entering the market for fuel tracking of late. Some of these are new and some are merely adapted from other high-consumption industries like freight hauling. These solutions are typically hand-held and can be used by those who fuel an equipment fleet at a jobsite, capturing fuel, meter readings, and date/time information. Some of these solutions come with fueling rings which actually control the flow and ensure accuracy.

This system, when connected back to the “base” or a host ERP, will deplete fuel inventory, charge the equipment or the job for the fuel, and record the consumption by piece. Some fleet managers prefer to trigger preventive maintenance off the fuel consumption readings feeling they are more accurate than reported hours by the field.

## **Safety**

Safety is every bit as important on a horizontal job as it is on a vertical one. New technology is quickly evolving for inspection tracking and accident reporting, worker monitoring (e.g. wearable computing), and even video solutions that can monitor job sites “visually” and identify when there is non-compliance like someone without a hard-hat or wearing their fall protection gear. The other development with solutions like this is notification. It doesn’t do the safety officer or project manager much good if an inspection identifies an issue at a job site or plant and it is only written down on a piece of paper or keyed into a spreadsheet. Workflow and notification are part of most of these systems now.

These were a few of the developments occurring in the heavy/highway marketplace. Stay tuned for the second part of the series which delves more deeply into the planning, strategy, and deployment methods contractors should use to ensure they get the most value from these investments.

---

*Christian Burger is President of Burger Consulting Group, an IT consulting firm based in Chicago, IL. Christian is a recognized leader in best practices and IT Strategies in the construction industry. He is actively involved at Burger Consulting, working directly with clients applying his expertise through a broad range of services from IT strategy development, software selections and implementation. Christian has been an active member of the CFMA for over 25 years both at the national and local levels and a regular contributor to CFMA Building Profits and other industry publications.*