

Concrete

INFOCUS

Spring 2020



REAL-TIME
CROWDSOURCED
PAVEMENT
DATA

ALSO

Pave Ahead
Developing Young Leaders
Anatomy of a Modern
Concrete Producer

ANATOMY OF A MODERN CONCRETE PRODUCER

 Silo Readers

 Quality Control

 Truck Tracking



By Victoria K. Sicaras



As the debate rages on about whether 2020 starts a new decade or marks the final year of the 2010s (hint, technically, it's the latter), a more pressing concern for the concrete industry revolves around whether concrete suppliers are equipped to meet the 21st century needs of an increasingly tech-savvy and on-demand world. What does it really mean to be a “modern” concrete producer in the year 2020? The answer lies in smart use of mobile technology and cloud computing.

The practice of using databases and software systems that cannot connect with each other, and cannot be accessed from the field, is quickly becoming antiquated with today's technology tools. Producers who employ cloud-based, integrated solutions – such as mobile dispatch systems and enterprise resource planning – are providing their teams with instant access to the operational data needed to improve processes and remove communication barriers. These tools leverage cloud data storage to simplify data-sharing and make production and delivery information readily available to remote users equipped with mobile devices.

Having access to real-time information about job tickets, loads, projects and more provides a more complete picture of the job at hand, so employees and customers alike can make informed, timely decisions to keep projects moving along. By empowering team members and contractors with access to such information, these producers are becoming the suppliers and business partners of choice.

What “Integrated” Solutions Look Like in Practice

For Doug Smith, president of Smith Ready Mix in Valparaiso, IN, integrated operations simply means getting as many of the company's software programs to “talk to each other” so information can be shared automatically. To do this, the company began switching to platforms that could harvest data from different software solutions (i.e., accounting, inventory management, quality control) and store it in the cloud for easier sharing. Being able to tap into all company data through one interface enables Smith and his team to get better granularity and reporting across multiple systems.

“Previously, our business processes were bogged down by systems that didn't or couldn't share data, which restricted our ability to capture and analyze that data,” Smith explained. “We had to either compare separate

reports created in different programs or perform manual file transfers to move data from one system to another.”

He said moving to cloud-based dispatch and accounting systems made data transfer immediate so the records are always current and accurate. “When a load of concrete is delivered and confirmed as shipped, the ticket is instantly available in our queue of tickets to be invoiced. We can practically invoice in real time.”

Cloud is Key

“We’ve found that integration between cloud-based solutions is so much easier than with our previous, on-premise setups,” noted Smith. “Plus, the cloud-based platforms allow us to use mobile devices to view operational information. Remote access was non-existent, or at least very difficult, with our in-house systems. At minimum, it required a computer and a server connection. I like the fact that it’s now easier for users to connect. As an example, our dispatch system makes it possible for our dispatchers to manage isolated, off-hours pours from home rather than having to stay late at the dispatch center.”

Smith Ready Mix was also able to restructure its information technology needs. Overhead costs related to equipment and maintenance have been minimized because the company no longer has to maintain a server room (the software provider handles the server and any software updates). Consequently, Smith’s IT department spends less time maintaining local infrastructure and more time on proactive efforts, such as ensuring it has redundant internet connections at all facilities.

The following are technologies Smith Ready Mix uses to facilitate integrated operations:

ERP



Enterprise resource planning (ERP) is the foundation of Smith Ready Mix’s integrated operations. “When all platforms are centered around one ERP, collecting and reporting on data is much simpler,” Smith said. “And with a cloud-based ERP solution, it’s easy to add and integrate other ancillary systems to improve various aspects of your business.”

The company’s accounting platform, Sage Intacct, acts as the central repository for all company data, including accounting, purchasing, billing, sales and maintenance. This setup allows staff to create a single dashboard view, populated with information from several sources, to get an overview of how things are going across the company at any given time.

“Ultimately, all other data from our related business software systems feed into Sage Intacct, so we can make immediate decisions about the overall business, including expenses and performance,” he added.

Dispatch



The company uses a cloud-based ready mix dispatch system developed by BCMI Corp. to schedule all deliveries, equipment and personnel (drivers). The solution provides up-to-the-minute access to fleet statuses, plant volumes, customer accounts, quotes, project history and more. Because BCMI’s dispatch system can be accessed via mobile app (Material Pro), team members can log in from anywhere, anytime to find the information they need; without having to call a dispatcher or travel to a jobsite. For instance, sales staff can use the app to monitor customer activity and jobsite performance; maintenance staff can pinpoint locations of trucks requiring service and repairs; and quality control staff can identify the loads they need to test. Customers are also given an app (Material Now) to track their orders in real time.

“We made the decision to switch to a modern, cloud-based system not only to accomplish all logistical needs, but also to give our customers visibility into their transactions with us,” Smith said.

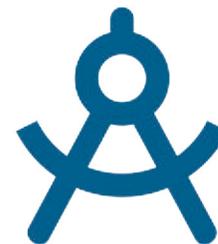
Truck Tracking



Equipping trucks with global positioning systems (GPS) gives producers more timely information about their assets’ whereabouts.

Smith Ready Mix uses Trimble truck-tracking and telematics solutions to manage the company’s ready mix fleet, enabling dispatchers to track trucks and their stage in the delivery cycle without having to depend on updates from drivers. The Trimble truck-tracking system feeds into BCMI’s Material Now and Material Pro mobile apps. The Material Now app displays each truck along with its location, status (i.e., washing, pouring, en route) and estimated time of arrival for customers. The Material Pro app makes the telematics data available to employees, which helps automate processes like the company’s truck maintenance program. Maintenance staff, for instance, can see live fault codes from the trucks and have a better idea of what tools or equipment to bring on service calls. Truck mileage and hours readings are also accessible.

Quality Control



Smith Ready Mix is currently transitioning to BCMI’s Mix Management tools so QC managers can view and change concrete mixes. “This will make it much easier for them to do their jobs,” Smith said.

When the implementation is complete, QC tests will automatically feed into BCMI’s dispatch system and accompanying Material Pro app to make records immediately available to QC managers without additional wait times for data entry or extra communication. When a QC person is at a jobsite, he or she will be able to use the Mix Management tool and mobile app to access previous test results, update a customer or take any other necessary action.

Tax Engine



Taxation on a load of concrete can get complicated. Typically, the producer or the dispatch software provider must maintain tax tables for multiple jurisdictions (city, county, state)

and apply them to the locations of both the point of production and the point of delivery. To ensure all transactions are properly taxed before the load of concrete is delivered, Smith Ready Mix uses Avalara, a tax-compliance tool that integrates with its ERP system. The tax engine calculates and applies taxes in real time.

"We can send GPS coordinates for each load of concrete we deliver and be assured that any affecting taxing entities will be paid," Smith said.

Tax returns also can be filed automatically with Avalara. The service comes at an additional charge, which Smith says is well worth the expense because it is a significant time-saver for his team.

Silo Readers



Adding sensors to silos gives producers more accurate information about material availability. Smith managers route incoming raw material trucks based on the cement volume information transmitted by silo sensors. This eliminates the need to place time-consuming phone calls to different plant locations asking personnel to manually check volumes. Using sensors to measure and transmit information also reduces the need for manual data entry, which decreases the likelihood of human error for more reliable inventory reports.

"We use the sensors to double check the volume of material we think we have at each plant location," Smith explained. "When we have deliveries scheduled, we can be sure that they're going to the right place at the right time, with the right amount of cement."

Drones (inventory)



The company uses drones for inventory management (see the image of a Smith Ready Mix plant, taken by drone for this article). Instead of physically checking piles of material, which Smith says involved a fair amount of guesswork, it can now take photos with

drones and upload them to cloud-based inventory software to reconcile inventories more accurately. The result is essentially real-time monitoring of materials.

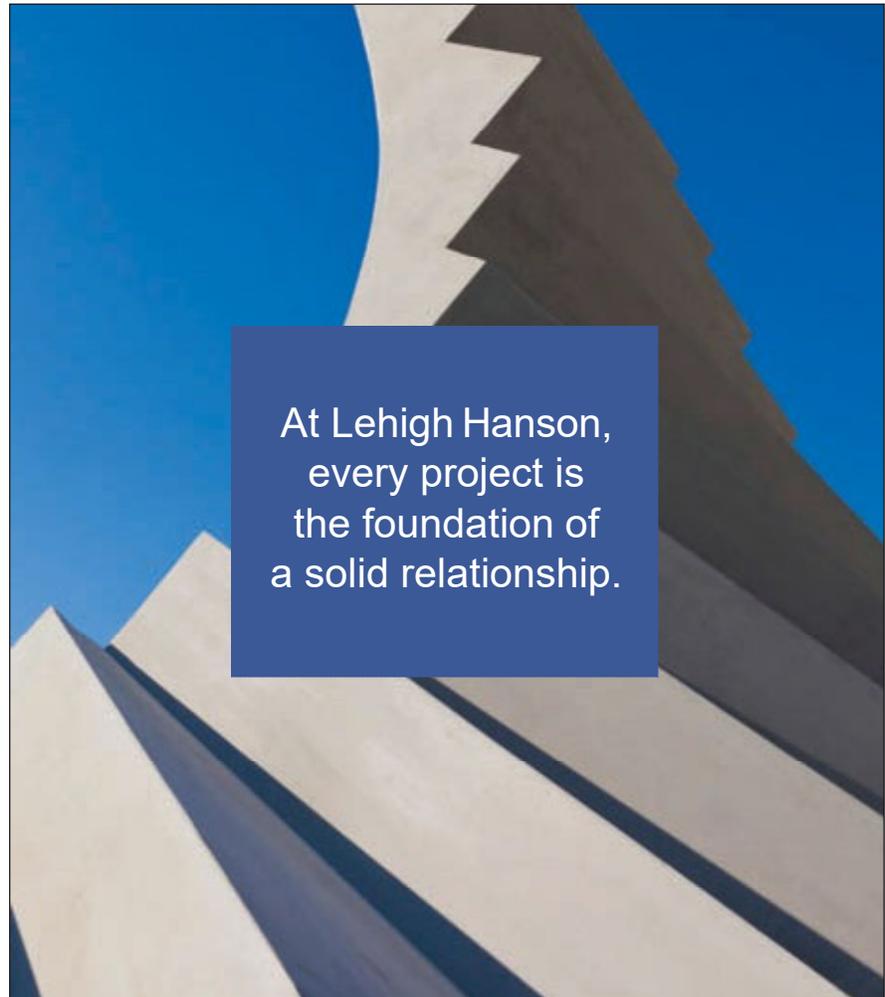
Are You a 21st Century Producer?

Modern day concrete producers have at their fingertips the tools to monitor operations and costs in ways they've never been able to before. By embracing cloud-based, integrated software solutions that provide greater visibility into day-to-day activities, producers can

streamline processes and enhance business decision-making to better support customers and increase their bottom line.

"I don't know what we ever did without these tools," Smith said. "Once you have all the data at your fingertips, you can't go back." ■

Victoria K. Sicaras is a freelance writer based in Countryside, IL. She has 15 years of experience working as a writer and editor serving the concrete and construction industries. Ms. Sicaras can be reached at 708-380-6319 or by e-mail, vsicaras@yahoo.com.



At Lehigh Hanson,
every project is
the foundation of
a solid relationship.

We view every project we take on as an opportunity to build strong connections. That's why Lehigh Cement, Hanson Aggregates and our affiliated companies work hard to deliver quality products, innovative approaches, exceptional service and a commitment to making each project a success. For a team that's dedicated to helping our customers build solid projects and relationships, look to Lehigh Hanson. lehighhanson.com

AGGREGATES | CEMENT | SLAG | CONCRETE | TX ACTIVE ©

trust earned daily

Lehigh Hanson
MICHEL BONDÉMENT GROUP