CASE STUDY

CONCRETE COLOSSUS BRINGS IN BINMASTER SOLUTIONS

CONTRIBUTED BY
Nathan Grube

PREPARED BY
Binmaster Level Controls

BINMASTER

Concrete Colossus brings in BinMaster Solutions

A mega Midwest based concrete and construction corporation was dealing with limited visibility of inventory control at their central dispatch. There was non-stop silo climbing and dropping of tape measures, which resulted in an inaccurate and time-consuming process for the concrete suppliers' workers, not to mention the potential safety hazards this presented.

Centralized Monitoring Needed

Dispatch needed real-time inventory oversight of ten local plants and several other remote plant locations, to keep up with the demand for cement powder and fly ash. Improved logistics between the cement plant and the batch plants were essential to ensure all locations are running efficiently. The two workers whose full-time job was to schedule and route trucks for the ten local plants situated around the metropolitan area, as well as the remote plants, were overwhelmed. BinMaster was up for the challenge of providing a solution for the company's complexities.

Logistical Challenges

Each batch plant location has between five and eight silos containing Type I cement powder, IPF, and fly ash that need to be filled with these raw materials. The fly ash for all ten plants is supplied primarily by a local power plant, while the Type I powder/IPF is ordered from a single cement plant. Their trucks can hold about 32 tons of material per load. It is critical all material fits into the silos when the trucks make a delivery, ensuring there is enough space for the entire truck to empty into the silo. Coordinating all these variables is crucial to prevent the company from losing time and money.

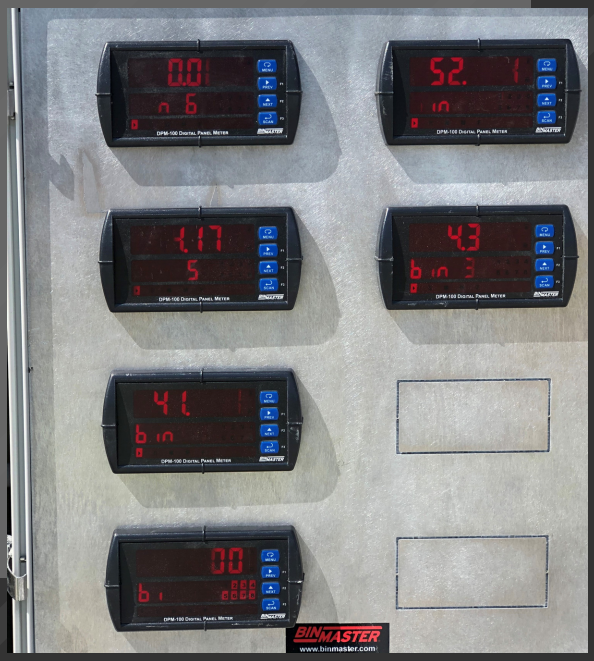
Non-Contact Radar Relief

To continuously measure silo levels without climbing, Nathan Grube of BinMaster recommended the use of 80 GHz non-contact radar level sensors. The plant's maintenance staff did the pre-wiring of their silos and had them ready to go for sensor installation. BinMaster technical services was able to get commissioning done in a day or two per location. Over time, 58 silos were outfitted with NCR-80 sensors along with rotary level indicators that are used as a redundant high-level alert.

Since the silos fill up very quickly, in as little as four to five hours, DPM-100 digital panel meters were put into play to report headspace. A BinCloud® gateway was used to communicate data from the sensors to the panel meters without extensive wiring.

Custom cabinets house multiple digital panel meters to access silo data from a centralized location.

The two primary truck drivers, or anyone at the plant, can check head space in the silos at any time. The drivers can now load silos and empty trucks with confidence knowing the material will fit.



Software takes the Solution Full Circle

Real-time visibility of inventory levels at every batch plant was essential to keeping up with the rapid-fire pace at the plants. Access to a BinView® remote monitoring website was provided to the corporate headquarters dispatch location as well as made available at each plant. With everyone looking at the same data, inventory discrepancies are a thing of the past. With everyone on the same page, dispatchers, drivers, and plant managers can set priorities and reduce out-of-stocks and delivery emergencies, all which waste time and can impact schedules and profits.

The BinView® software allows the dispatchers to monitor and order materials for multiple locations, while plant managers have access to inventory information for just their location. Users are able to view and sort bins by material, set automated alerts, look at trends, and generate usage reports.

Rock Solid Results

The concrete company stated they "couldn't afford to run out or risk messy overfills." They no longer have to deal with the risk of climbing in the weather which can be very cold, hot, or windy in the Midwest. The cement supplier also expressed they "really like the visualization of what's going on. They can look at data for all locations, just one location, or just bins that need to be filled," stated Nathan Grube. "And since the plants are so active, they get updates every 10 minutes. Younger people recognize the value of technology, while plants are faced with trying to do more work with fewer people."

"They really like the visualization of what's going on. They can look at data for all locations, just one location, or just bins that need to be filled,"," stated Nathan Grube, commissioner for the project.