

Case Study

DRYING GRAIN IN TEMPERING SILOS

Grain drying silos and sugar silos get 3DLevelScanners

APPLICATION:

Americans consume 101 pounds (160 bowls) of cereal per person, per year, according to International Business Times. The cereal industry moves a lot of bulk ingredients like sugar, dry grains and flour and they rely on an agile supply chain to deliver fresh ingredients through their processing plants. One plant called on BinMaster to help them measure wheat, corn and rice stored in large silos.

CHALLENGE 1: WHAT IS A TEMPERING SILO?

Top dry grain bins carry hot grains which cool for several hours to stabilize moisture content before storage. Temper silos are typically humid and are susceptible to buildup along silo walls. It is difficult to get accurate inventory readings in large silos with uneven material surfaces. Additional dust generated during the filling process further complicates accurate inventory measurement.




CHALLENGE 2: HOW DO YOU MEASURE A SUGAR SILO?

Sugar, and its dust, tends to accumulate. Storage silos can be sticky and prone to buildup, so understanding actual material content continuously becomes very difficult. The sticky environment challenges level measuring systems which need to operate even if sugar sticks to the antenna or other system parts.

SOLUTION:

Binmaster's 3DLevelScanner reliably measures level and volume despite the humid, dusty storage environment. Its visualization tool generates a real-time 3D display of the topography of the cooked grains inside the silo, allowing early detection of buildup. This enables the production manager to schedule timely maintenance and avoid unexpected production. That save time and money.



Industry	Bulk Material	Sensors	Software	Applications
 <p>Agriculture Farming Livestock</p>	Grain Flour Beans Fertilizer Seed Liquids Bins, silos, tanks, piles, domes	Rotary level indicator Capacitance probe Vibrating rods Diaphragm switch Tilt switch Radar SmartBob 3D sensors Ultrasonic Flow detector	BinCloud BinView AgriView Binventory FeedView 3D Multivision	Prevent overflows Process control Inventory management Remote monitoring Monitor piles Flow detection Bin aeration Dust detection Aeration Ag Chemical Storage
 <p>Bioenergy</p>	Corn DDG Biomass Wood pellets Wood fiber Forest residue Bins, silos, tanks, piles, domes	Rotary level indicator Capacitance probe Vibrating rods Diaphragm switch Tilt switch Radar SmartBob 3D level scanner Ultrasonic Flow detector	BinCloud BinView Binventory 3D Multivision ResinView	Prevent overflows and outages Process control Inventory management Remote monitoring Flow detection Slurry tank detection Measure DDGS
 <p>Cement</p>	Sand Gravel Clinker Rock Powder Bins, clinker silos, tanks, piles, domes, chutes, crushers	Rotary level indicator Capacitance probe Vibrating rods Diaphragm switch Tilt switch Radar SmartBob 3D level scanner Ultrasonic sensor Flow detector Plugged chute detector Airbrator Diffuser air pad	BinCloud BinView Binventory 3D Multivision CementView	Prevent overflows and outages Process control Inventory management Remote monitoring Monitor piles and bunkers Inventory domes Plugged chutes Measure crusher levels ESPs or clinker silos Prevent conveyor overloads Silo aeration
 <p>Food processing</p>	Brewing Foodstuffs Solids Slurries So much more... Silos, mixers, batching tanks, conveyors, pipelines	Rotary level indicator Capacitance probe Vibrating rods Diaphragm switch Tilt switch Radar SmartBob 3D level scanner Ultrasonic sensor Flow detector Airbrator Diffuser air pad	BinCloud BinView AgriView Binventory 3D Multivision	Prevent overflows Inventory management Remote monitoring and VMI Process control Sanitary level measurement Detect levels in mix or slurry tank Detect levels on conveyors Flow detection Silo aeration
 <p>Mining</p>	Lump coal Ores Aggregates Fine alumina powder Silos, crushers, conveyors, domes	Rotary level indicator Capacitance probe Vibrating rods Diaphragm switch Tilt switch Radar SmartBob 3D level scanner Ultrasonic sensor Flow detector Airbrator Diffuser air pad	BinCloud BinView Binventory 3D Multivision CementView	Inventory management Monitor piles Prevent overfills or outages Detecting plugged chutes Measuring inventory in domes Level measure in crushers or bins Prevent overloading Process tanks Remote monitoring Silo aeration Dust detection
 <p>Plastics</p>	Resins Flakes Powders Granules Regrind Silos, bins, containers, hoppers, tanks	Rotary level indicator Capacitance probe Vibrating rods Diaphragm switch Tilt switch Radar SmartBob 3D level scanner Ultrasonic sensor Flow detector Airbrator Diffuser air pad	BinCloud BinView ResinView Binventory 3D Multivision	Prevent silo overflow Eliminate outages Inventory management Remote monitoring Vendor managed inventory Flow detection Bin Aeration Dust Detection