

Case Study



OILSEED STORAGE:

Production depends on exact measurement

Worldwide, vegetable oil production includes 25 varieties of vegetable oils, oilseed and fats. In fact, Ukraine is the No. 1 producer of sunflower oil followed by Russia, according to the International Association of Vegetable Oils. Proper storage of beans and seeds is important to optimize the quality of the finished products. The practice of properly filling and emptying bins ensures equilibrium moisture content and relative humidity are maintained. BinMaster sensors and software can provide a measurement of bulk materials in a silo to accommodate those operating these silos.



SEED STORAGE FOR OIL PRODUCTION

About Seed & Oil Production:

Prior to being processed into various kinds of oils, seeds or nuts are delivered to a production plant and stored in large storage silos to ensure adequate material is available for production. One seed and oil operation can house and process a variety of seeds like sunflower, canola, palm, safflower, sesame, and grape seed; or nuts including peanuts, soybeans, almonds, and walnuts.

Large silos are used to store raw materials which can be greater than 50' (15m) in diameter and be over 130' (40m) tall. Monitoring the amount of raw material exiting storage silos and entering the oil extracting machines is essential for tracking inventory and maintaining production efficiency. Byproducts from oil processing (such as meals, hulls, lecithin, hominy/dried maize and others) are stored in silos before being shipped for use in the production of fertilizers, animal feeds, cosmetics and other products.

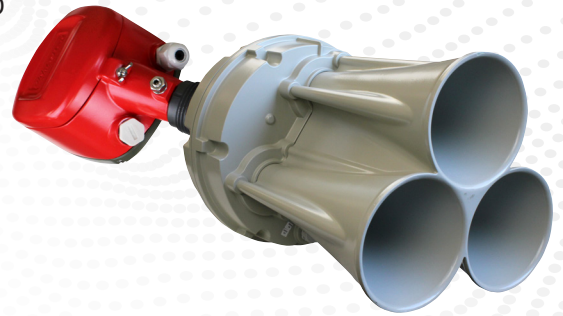
Challenge:






Material builds up inside silos and, as the temperature rises over time, the quality of beans diminishes. This can ultimately cause spoilage and result in hard clumps of material that cannot be used. Silo operators hope to address this challenge by detecting areas of buildup as soon as they begin to form.

Solution:

BinMaster's 3DLevelScanner's visualization tool allows production managers to see topography of material inside the silos in real time, detect buildup and schedule maintenance and cleaning before damage is caused to the material or unexpected interruptions of production occurs.

BinMaster's 3DLevelScanner addresses the need for accurate inventory as well. Accurate inventory control is required to ensure a sufficient supply of raw materials to meet the production plan, taking into account delivery times which can vary considerably. By using multiple-point surface mapping technology, the 3DLevelScanner system provides end users with accurate, reliable and continuous noncontact volume measurement enabling them to better manage inventories.



Industry	Bulk Material	Sensors	Software	Applications
 Agriculture Farming Livestock	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
 Bioenergy	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
 Cement	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
 Food processing	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
 Mining	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
 Plastics	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

