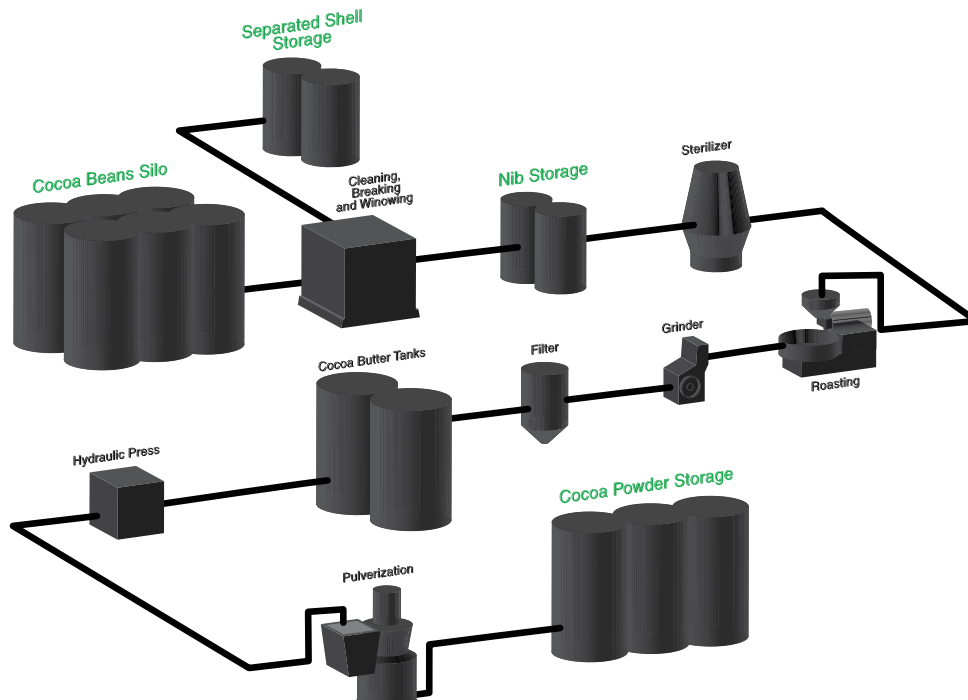




# Food & Beverage

## Cocoa Processing



3DLevelScanner

## Cocoa Bean Storage

**Application:** Cocoa beans are stored in large silos prior to being transferred into the production process.

**Challenges:** Cocoa bean storage silos tend to be large. Plus, cocoa beans are prone to generating dust, making it difficult for competitive devices to measure the beans reliably and accurately. Cocoa beans also tend to pile unevenly inside the silo, making accurate measurement of the volume of stored beans very difficult. Accurate inventory measurement is necessary to provide an adequate supply of beans for production. BinMaster's 3DLevel-Scanner multiple-point mapping technology overcomes these problems, enabling accurate assessment of the volume of the beans remaining in the silo at any time.

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## Separated Shell Storage

**Application:** The shell byproduct is stored in silos before being shipped for use in other products, such as in agricultural mulch or by fertilizer producers.

**Challenges:** The shells are coarsely textured and when combined with rising humidity and temperature, can build up or create irregular topography in the silo. This can potentially damage the silo and diminish the quality of the product, as the internal temperature in areas of buildup rises over time causing the beans inside to mold and stick to each other, forming hard clumps of material that cannot be used. Being able to detect buildup as it occurs and knowing the volume of material inside the silos is crucial to the end user. The BinMaster 3DLevelScanner can measure and map the material in the silo, provide an accurate level and volume estimate, and create an optional 3D visualization of the material in the bin to identify areas of buildup.

## Nib Storage

**Application:** Cocoa nibs are stored in silos prior to entering the cocoa production process.

**Challenges:** As the nibs feed the entire cocoa production process, end users need to accurately monitor inventory levels in order to ensure a continuous supply and avoid unexpected interruptions in the production process and avoid losses in time and reduced profitability. The BinMaster 3DLevelScanner accurately and reliably measures the level and volume of nibs remaining in the silo in real time, significantly improving the end user's inventory management and control capabilities.

## Cocoa Powder Storage

**Application:** The final material – cocoa powder – is stored in silos prior to either being bagged or shipped in bulk.

**Challenges:** As cocoa powder is conveyed into the silo, it tends to be extremely dusty and pile unevenly. It also behaves erratically as the silo is unloaded and is prone to bridging and buildup. The 3DLevelScanner's dust-penetrating, multiple-point technology can accurately measure the level and volume of the material. Optional 3D visualization indicates where buildup is occurring.



3DLevelScanner

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