



The large tube gallery connects the existing bucket elevator to the new DomeSilo.



Rail is essential for both receiving and loadout at the distribution facility.



The new DomeSilo is the second at the site; the first was built in 2017.

## Scope of Work

- FEED Study
- Value Engineering
- Geotechnical Analysis
- Material-Handling Systems Engineering
- Structural Engineering
- Mechanical Engineering
- Electrical Engineering
- Procurement & Subcontract Management
- Dome Construction
- Tunnels Construction
- Material-Handling Systems Installation
- Additional Steel & Concrete Construction

None  Some  All

## Storage & Reclaim

- 1 dome: 56.1m (184ft) wide x 44.5m (146ft) tall
- 75,000 metric tons, sugar
- Screw reclaimers

## Overview

Repeat customer American Crystal Sugar hired Dome Technology to build a second sugar DomeSilo in Montgomery, Illinois, USA, doubling the distribution facility's storage capacity.

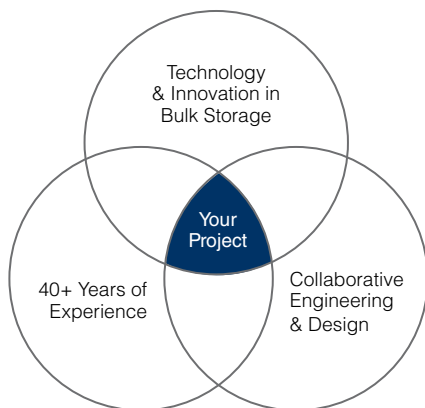
This dome, with its 75,000-metric-ton capacity, was built adjacent to a nearly identical DomeSilo from a 2017 collaboration between the companies. The new dome is 184 feet in diameter and 146 feet tall.

Dome construction was just one part of the project puzzle for Dome Technology. Rail delivers sugar to the site, DomeSilos store it, and trucks primarily distribute it. But Dome Technology adapted infrastructure to also provide a rail loadout option so ACS could empty the domes prior to new production runs.

"Both of those domes sell truckloads of sugar into the local market," ACS business-development manager Aaron Bjerke said. "If for some reason we can't sell all the sugar by truckload, we have the option of moving railcars out of that site to clear the domes," freeing up storage space from November through April during the company's tight spot of very high inventory.

On the fabrication side, Dome Technology built and installed the large tube gallery connecting an existing bucket elevator to the new DomeSilo, optimizing conveyance and protecting product integrity. Built in the Dome Technology shop in Idaho Falls, Idaho, the steel tubes are 13.5 feet in diameter for ease of maintenance and extend 160 feet to connect the bucket elevator to the new DomeSilo. The tubes' exteriors were finished with insulated paint. Loaded with tiny ceramic discs, this paint boosts insulation values and was a customer request. The tube gallery is essential to the project because it helps keep the temperature and moisture levels consistent during conveyance. "As it's being transported, it protects the sugar. That's the benefit—it's 100 percent protected from the elements," Dome Technology sales manager Daren Wheeler said.

Fabrication of a round tube gallery requires precision, and bids from outside manufacturers were cost prohibitive. The project was moved to the Dome Technology shop as a cost-saving, quality-control measure. "It was pretty technical, and it speaks a lot to where we are going with our fabrication capabilities," Wheeler said.



Read more about this project by clicking [here](#).