



The PVC airform is bolted to a ring beam and inflated, forming the exterior dome shape; the fabric remains in place indefinitely as the outer waterproofing membrane.



To maximize real estate, pump and blower buildings curve around the building.



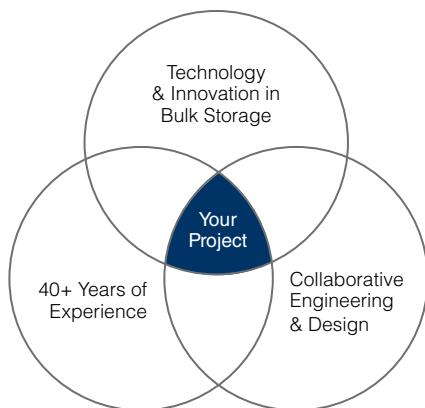
Dome Technology's team also provided ladder-tower and bridge fabrication and installation.

## 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: 42m (138ft) wide x approx. 43m (141ft) tall
- 67,500 metric tons, cement
- FLS Ful-Floor with two-sided discharge



## Overview

Dome Technology built a 67,500-metric-ton DomeSilo for Titan America in Chesapeake, Virginia, an identical structure to one built for the company in Tampa, Florida, during the same time period.

The DomeSilo is 138 feet in diameter and 141 feet tall. Because the Chesapeake site had a height restriction like the Tampa site, Titan chose a DomeSilo model that “is not a complete sphere but rather a cylinder with a dome roof,” Titan corporate director of projects Nasos Economou said. Although most of the height comes from vertical stem walls, the structure still benefits from the robust strength and monolithic integrity that comes standard with a DomeSilo.

One of Titan's priorities was taking full advantage of the portside property. The site's soil conditions required a deep foundation to minimize settlement, and an auger-cast piling system with pile cap provided structural security from the ground up. Because of limited space, Dome Technology designed buildings for the Fuller-Kinyon® (FK) Screw Pump and blowers that curve around the DomeSilo exterior rather than standing separate.

To unload cement and convey it into storage, double-sided discharge points at the base of the DomeSilo combined with an FLSmidth Cement Ful-Floor® pneumatic reclaim system ensures reclaiming isn't interrupted if one transport system is temporarily out of order. FK pumps convey product from the DomeSilo to truck loadout silos.

Dome Technology's scope of work also included the dome reclaim tunnel, backfill, installation of the Ful-Floor reclaim system, and ladder-tower and bridge fabrication and installation.

According to Economou, Titan was able to achieve lower capital requirements by selecting a DomeSilo with its conveyance and reclaim systems. “The dome appears to be the most cost-effective solution for a single product,” he said.

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