



Digital Silo

Invest in **real-time monitoring** today, avoid **millions** in losses tomorrow!



Digital Silo

- Average loss per incident: **\$2–10 million**
- Damage to people, production, and reputation
- Insurance claims are rising — inspections are often reactive, not predictive

Each Collapse Costs Millions and Can Be Fatal

GRAIN AND CEMENT SILO = CONSTANT DYNAMIC LOADS

- **Thousands** of off-farm silos and **millions** of on-farm silos currently in operation
- Around **47% of all stored grain** volume is held in off-farm facilities with average storage capacity **1.2 million bu per silo**



Limitations of Traditional Monitoring

Traditional inspection and monitoring methods can't keep up with the real-world behavior of silos

- Design models **rarely** reflect actual load patterns experienced during operation
- Foundation settlement and concrete curing **can shift** alignment and **compromise stability**
- Inspections are often **reactive, not predictive**

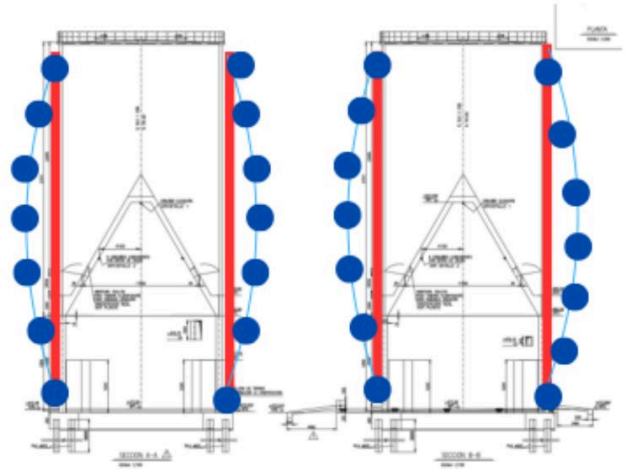


- Manual visual checks cannot **detect internal stress** or **microdeformations**
- Annual measurements provide information **too late** to enable timely intervention
- Valuable structural data remains **offline and unused**



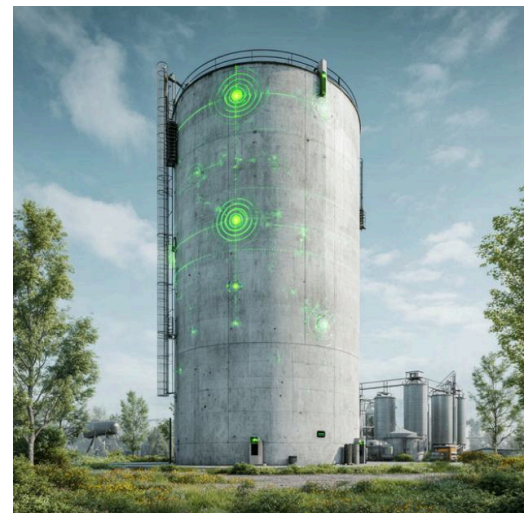
Turning Each Silo Into a Self-Reporting Digital Asset

- Installed network of wireless sensors
- Vibration | Tilt | Temperature | Load | Settlement
- 24/7 monitoring of structural response under real loads
- AI analytics detect patterns invisible to human eye



The Solution

- Sensors capture real-time structural data
- Data is sent securely to the cloud
- AI models analyze and highlight potential risk zones
- Users receive early alerts and visual stress maps on their dashboard



Data-Driven Protection That Pays Off

- Prevent failures **before** they occur
- Reduce **insurance risk** and downtime
- **Optimize** maintenance schedules
- Extend structure lifespan by **100%**
- Guarantee full compliance with **safety and ESG standards**



Contact Adventum Tech

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