

# Kansas State University Bulk Solids Innovation Center



**Kansas State University Bulk Solids Innovation Center** is used to study and develop the understanding of bulk solids material handling, in turn enhancing the businesses that use these materials or manufacture the systems that convey, store and dispense them. This university-level research center is the only one of its kind in North America.



## **Center Includes:**

- Two-Story 13,000 ft<sup>2</sup> (1,208 m<sup>2</sup>) Building
- Research Areas - Six Laboratories for University and Industry-Sponsored Research
- Training/Education, Conference and Lecture Rooms
- Material Properties Test Lab - Bulk solid and particle properties can be evaluated and modeled in a test bench environment. Equipped with a full range of lab instruments.
- Full Scale Bulk Solids Test Bay - Full Scale Systems include: Vacuum and Pressure Dilute Phase, Vacuum Sequencing, Vacuum and Pressure Vessel Dense Phase, Rotary Valve Dense Phase, Batch Weighing, Silo Zone Blender, Gravity Flow, Air Filtration, Feeding, Mixing and Silo Storage
- University Researchers, Doctoral Candidates and Students
- Continuing Education and University Level Courses about Bulk Solids

**KANSAS STATE**  
UNIVERSITY

Bulk Solids  
Innovation Center

**K-State Bulk Solids  
Innovation Center**

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[bulksolids.k-state.edu](http://bulksolids.k-state.edu)



# Bulk Solids Innovation Center

## Research Capabilities:

**A. Full Scale Pneumatic Conveying Systems**, up to 920 ft (280m) horizontal and 65 ft (20m) vertical

1. Vacuum Dilute Phase
2. Pressure Dilute Phase
3. Vacuum Sequencing
4. Vacuum Dense Phase
5. Pressure Vessel Dense Phase
6. Rotary Valve Dense Phase

**B. Bulk Solids Processing Systems**

1. Feeding, Weighing, Scaling
2. Blending / Segregation
3. Silo Blending
4. Particulate Air Filtration
5. Instrumentation and Controls

**C. Storage and Gravity Flow** from various hopper geometries including a 3,420 ft<sup>3</sup> (100 m<sup>3</sup>) Silo

**D. Lab Analysis, Material Characterization and Properties Testing, with Report Summary**

**E. Computer Modeling**

