

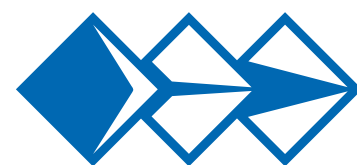
## ADF Services Offered

### [ Process Engineering ]

- Process flow development using "Smart" flow diagrams
- Mass and Energy Balances
- Process scale-up
- Process modeling and simulation
- Process optimization and debottlenecking
- "Intelligent" P&IDs
- Equipment sizing and specification
- Process alternative evaluations
- Process control and instrumentation
- Piping design with 3D piping models
- Ventilation, temperature, and humidity control
- Material handling and conveying
- CIP capacity and system design
- Process Validation

### [ Facility Engineering ]

- Master planning and feasibility studies
- Utilities design for:
  - Steam
  - Compressed Air
  - Water
  - Electrical Power
- Equipment layouts and 3D modeling
- Structural Engineering:
  - Foundations and Equipment Supports
  - Buildings, bridges and towers
- Storage Bins, Tanks, Pressure Vessels design
- HVAC and Environment control
- Electrical engineering
- Instrumentation and control
- 3D Laser scanning
- Experienced in OSHA, NFPA, FDA and Food Safety compliance



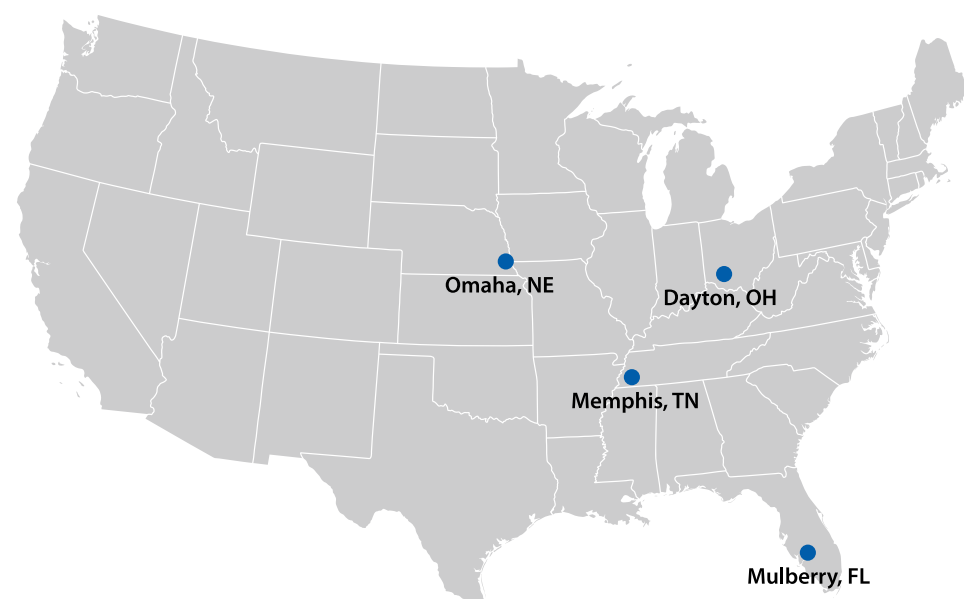
# ADF Engineering

PROBLEM SOLVED

[www.adfengineering.com](http://www.adfengineering.com)

## Dayton, OH – Corporate Headquarters

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# ADF Engineering

PROBLEM SOLVED



[ Animal Feed and Pet Food ]

# ADF Engineering, a Process and Facility Engineering Company

## [ Industry and Process Expertise ]

ADF Engineering provides comprehensive Process Engineering services to the Food, Feed, BioFuels, Bioscience, and Consumer Product industries. ADF offers all disciplines of engineering expertise including process, piping, civil/structural, electrical and instrumentation/controls. We use the latest design software, process simulation programs, and 3-D modeling during the design and construction phases.

For many of our clients, ADF is the “go to source” for:

- Professional Process Engineering
- Facility Design
- Project and Construction management

ADF Engineering is a select supplier for engineering services to several of the world's largest food ingredient providers and premium pet food companies. The key for ADF's success is the technical knowledge and extensive field experience of our staff. We collaborate extensively with your team to ensure that the process will meet your expectations and requirements.



## [ Animal Feed and Pet Food ]

The ADF Engineering Team has direct experience and practical knowledge of food safety engineering and best practices that are critical to the success of your project. Our knowledge and experience covers all aspects of Animal Feed and Pet Food processes from ingredient receiving through finished product storage. Process and industry knowledge is a core of ADF Engineering's competency.

- Storage
- Milling
- Batching & Conveying
- Size Classification
- Screw Press Technology
- Extrusion
- Premium and Organic Food Experience
- Gentle Product Handling
- Pellet Cooling
- Dust Control and NFPA Compliance
- Food Safety and FDA Compliance
- Process Safety Services
- Mixing, Flavor Enhancement, Dry/Liquid Blending

## [ Grain and Ingredient Handling ]

ADF has extensive expertise with grains and grain based ingredients, including specialty corn and soy-based feeds, as well as DDGS and WDG from the biofuels industry. Our in depth engineering knowledge specifically includes dust control, aspiration, pneumatic and mechanical conveying, bulk grain storage, and combustible dust safety design and operation.



## [ ADF Custom Process Solutions ]

ADF Engineering has the specialized knowledge to provide custom solutions tailored to your specific needs, while maintaining Code compliance and maximizing your return on capital investment.

- Food Safety Compliance Assessments
- Combustible Dusts Compliance Assessments
- Energy Cost Reduction Audits
- Process Safety Services:
  - Process Hazards Analysis (PHAs)
  - Process Safety Audits and HAZOPs
  - Safety Integrity Level (SIL)
  - Layer of protection Analysis (LOPA)
  - Process Safety Training
- On-Site Process Evaluation and Optimization
- Process Modeling and Simulation

