

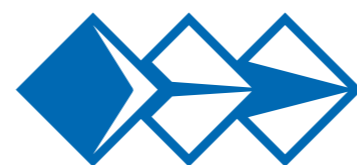
## ADF Services Offered

### [ 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



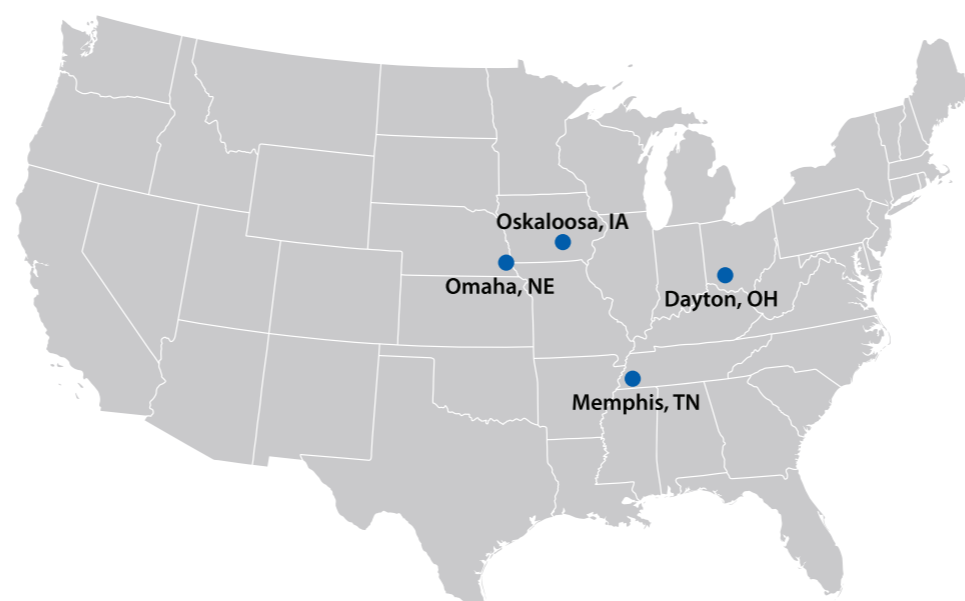
# ADF Engineering

PROBLEM SOLVED

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

## Dayton, OH – Corporate Headquarters

Omaha, NE • Memphis, TN • Oskaloosa, IA



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# ADF Engineering

PROBLEM SOLVED



[ Wet Mill, Starches and Sweeteners ]

# ADF Engineering, a Process and Facility Engineering Company

## [ Industry and Process Expertise ]

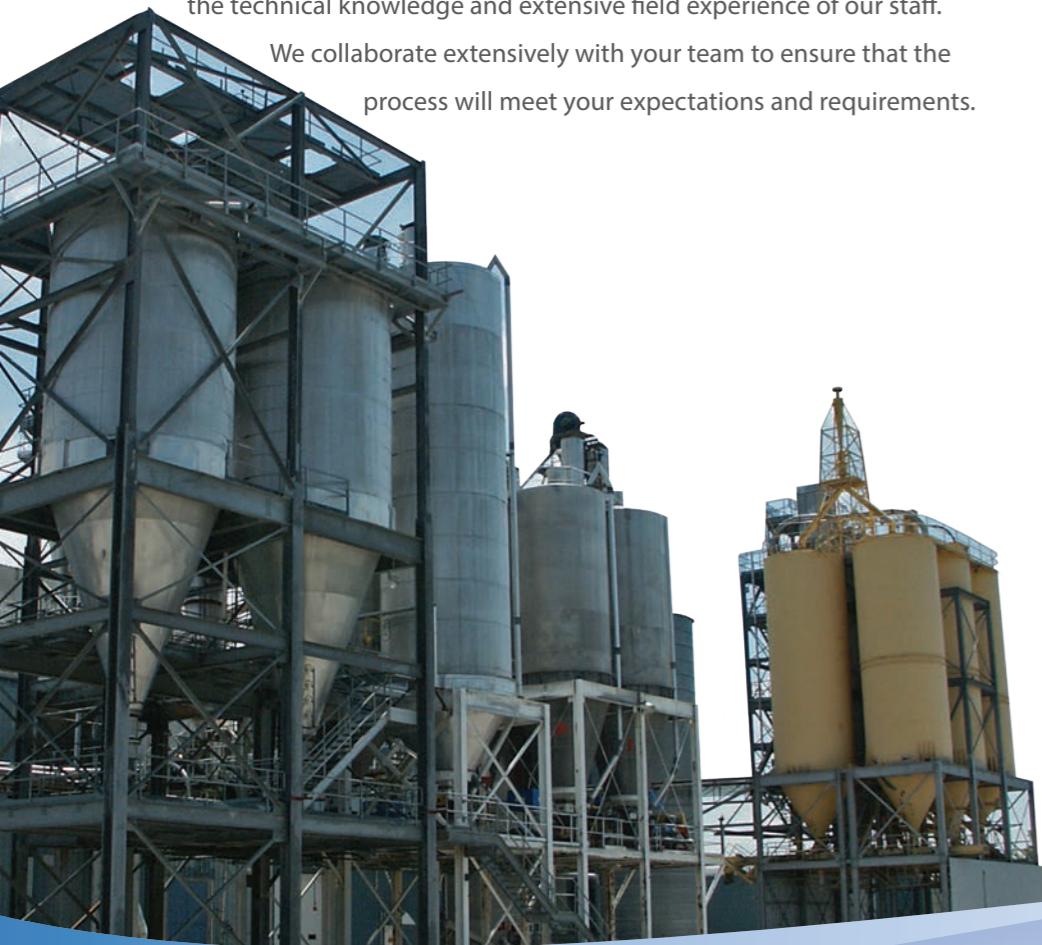
ADF Engineering provides comprehensive Process Engineering services to the Food, Feed, BioFuels, Bioscience, and Consumer Product industries. ADF offers all disciplines of engineering expertise including process, piping, civil/structural, electrical and instrumentation/controls. We use the latest design 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 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.



## [ Wet Milling, Starches and Sweeteners ]

The ADF Engineering Team has direct experience and practical knowledge of a broad range of unit operations and best practices that are critical to the success of your project. Our knowledge and experience covers all aspects of wet milling. Process and industry knowledge is a core of ADF Engineering’s competency.

- Truck and Rail Unloading
- Storage Silos
- Steeping & Steepwater
- Grinding
- Germ, Fiber, Starch and Gluten Separation
- Dewatering
- Flash and Rotary Drying
- Pelletizing
- Pellet Cooling
- Starch Conversion
- Evaporation
- Syrup, Fructose, Sucrose
- Filtration
- Decolorization
- Crystallization
- Dry/Liquid Blending

## [ Coproducts Milling and Handling ]

ADF has extensive expertise with dry & wet materials, starches, specialty meals and feeds. Our in-depth engineering knowledge specifically includes dewatering, drying, dust control, aspiration, pneumatic and mechanical conveying, bulk storage, and loadout.



## [ Refined Oil ]

- Prep and Extraction
- Refining

## [ Fermentation ]

- Ethanol
- Organic Acids
- Other Chemicals

## [ 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.

- Process Modeling and Simulation
- Energy Reclaim
- Food Safety Compliance Assessments
- Combustible Dusts Compliance Assessments
- Energy Reduction Audits
- Process Safety Services
- On-Site Process Evaluation and Optimization
- Environmental Pollution Control
  - Dust Control
  - Scrubbers
  - Thermal Oxidizers
  - Regenerative Thermal Oxidizers