Adelphi provides our clients a full range of capital improvement project work, shutdown, turnaround and plant maintenance services. Client satisfaction leading to long-term relationships is our corporate goal.

Our corporate offices are located in the Kansas City metropolitan area, strategically positioned and centrally located, Adelphi personnel have an average of over 25 years’ experience in their respective areas. We have learned over the years that performance and quality is realized from experienced staff. Adelphi personnel are hand-picked and seasoned for success.

IMPROVEMENT EVOLUTION
Adelphi personnel strive to improve our performance on each task. An important factor in achieving an evolving improvement is integrating our customer’s requirements on a project-by-project basis with all elements of Adelphi’s work team: project management, project engineering, site management and planners.
FIELD EXPERIENCE

- Pipeline Construction and Maintenance
- Refineries and Chemical Plants
- Power Plant Maintenance
- Dust Collector Systems
- Pneumatic Conveying Systems
- Mechanical Conveying Systems
- Bulk Material Storage Systems
- Bulk Material Load-Out Facilities

ENGINEERING CAPABILITIES

Adelphi can help arrange project specific engineering as needs arise; including but not limited to:

- Civil Engineering
- P.E. Stamps in 38 States
- Structural Engineering
- Piping Layout and Design
- Custom Ductwork and Ductwork Tie-In
- Mechanical Engineering
- Fan Sizing and Air Handling
- Ductwork Design
- AutoCad 2006
- AutoCad Mechanical 2006
- Autodesk Inventor 10
- Algor Analysis Software
- Electrical Engineering
**FABRICATION CAPABILITIES**

Adelphi can help arrange project specific fabrication as needs arise. Through several affiliated companies, Adelphi has access to the following types of fabrication equipment and can help coordinate fabrication from Hot Rolled Steel (HRS), Stainless Steel (including food grade), or Aluminum materials.

- 3000 Watt CNC Laser
- CNC High Definition Plasma
- Up to 400 Ton Press-Brakes
- Up to 100 Ton Ironworkers
- Up to 18” Lathes
- TIG/MIG/SUBARC Welding
- Tank Turning Rolls to ½” Capacity
- Up to 30,000# Overhead Crane Capacity
- Up to 21’ Hook Height Under Crane
- Stainless “Safe Areas”
- Dedicated Paint Areas

**ADDITIONAL SERVICES**

Together with its affiliated companies, Adelphi can also help its customer clients with project related:

- Automated Control Systems
- Foundation Design
- Project Management
- Custom Designed Equipment; OEM Equipment
- Project Specific Fabrication
- OEM Equipment Designed for Air Pollution Control, Fans and Pneumatic Material Conveying, Bulk Conveying
- Structural Steel
- Ductwork and Piping
- Custom Process Valving and Automated Controls

- Complete Design (Mechanical, Civil, Structural and Electrical) Services
- PE Qualification
- Project Management
- OEM Equipment Supply
- Complete Design / Build Projects
- Full Construction and Erection
- Field Services and Ongoing Maintenance
- Maintenance Shutdown, Turnaround and Planning
- Automated Control Systems
- Startup and Supervision
- Process Piping
Adelphi personnel have served in a wide range of industries.

- Refineries
- Petroleum
- Natural Gas Transmission
- Rock Products and Mineral Processing
- Steam Boilers
- Utilities and Power
- Ethanol Processing
- Chemical Plants
- Plastic Manufacturing
- Rubber Processing
- Food Processing
PROCESS CONTROLS

Through Adelphi’s close association with control firms that specialize in process engineering and process control upgrades, Adelphi can assist clients in project specific power, control panel, control automation and control cabling upgrades, if required.

This engineering, design, and fabrication capability augments Adelphi’s electrical cabling and control automation installation capability, and greatly expands Adelphi’s product and service capability for its customers.

Specifically, Adelphi can arrange to have a Power System Analysis conducted prior to required system upgrades, coordinate application calculations, coordinate all electrical system drawings and schematics, coordinate control automation upgrades, and ensure that all upgrades are PE (Professional Engineering) Certified, when required.

Control and System Automation upgrades are executed through a crew with over 40 years design experience in control automation upgrades.

Affiliate companies are well-versed in conceptualizing and designing control systems for a wide range of industrial processes. All panels are designed to National Electrical Code specifications, and the Electrical Standard of Industrial Machinery, NFPA Article 79. Affiliated companies are well-versed in PLC (Programmable Logic Controller) programming for Allen Bradley, Siemens, Square D, Texas Instruments, and General Electric systems as well as HMI (Human Machine Interface) and OI (Operator Interface) programming for Rockwell, Panelview, Intellution, Total Control, Nematron, and Wonderware systems.

QUALITY

Adelphi personnel pride themselves in executing projects ahead of schedule whenever possible. Bringing a project “on-line” on a timely basis, however, is only half the challenge. Adelphi crews hold work quality and safety ahead of the project schedule priorities. Adelphi embraces a ZERO rejects philosophy for every aspect of work. Adelphi implements a Quality Control / Inspection Plan for every project in order to meet this goal. This plan is constructed prior to the start of work. The initial activities normally include a full review of the client’s specifications, then a specific plan is developed around good work practices and critical hold points. The Adelphi Quality Control / Inspection process focuses primarily on three key strategies: Craft Training and Certification, Defining Hold Points and Identifying Common Work Errors in Advance.

CRAFT TRAINING

Through well-trained craft personnel, common mistakes are avoided because people know what to do and what to avoid. When supplemented through visual inspection in the field, safe and efficient work practices are constantly monitored and reinforced.

HOLD POINTS

By defining the hold points for inspection in advance of the start of work, quality can be built in by making sure critical points of inspection are made. This reduces costly rework and ensures trouble-free startup. Hold Points are reviewed daily with each foreman prior to the start of work to ensure full compliance.

COMMON WORK ERRORS

Adelphi believes in prevention, not correction. To achieve this, the site manager issues a list of inspection requirements and hold points at the start of the project. These are areas of concern based on years of experience and have proven to be one of the best tools to identify preventable mistakes and plan the daily work to eliminate these mistakes.

SAFETY POLICIES

No project can be considered successful unless it is executed with safety as the number one priority. The policy statement from Adelphi’s Safety Manual and from Adelphi’s Vice President Bill Berk most accurately reflects Adelphi attitude toward field safety for both our clients and our crews. If you would like a copy of the full manual, it is available on request.
The list of Example Projects below provides an overview of the scope of work Adelphi personnel typically undertake. Each entry is a separate facility and location. Following this list you will find a chronological list of field installation projects recently completed by personnel on our staff. Feel free to call with questions or further description for any of the projects.

### Alumina Processing Plant, Mid-South USA
- Convert existing Norblo 432 bag shaker style baghouse to IAC pleated element style pulse-jet collector (180 elements)
- Project executed over 7 day production turnaround and started up as scheduled
- Performed additional work as requested by the customer without additional time

### Bulk Storage and Load Out Terminal, Caribbean
- Installation of two bolted silos with 8,000 tons of finished product storage
- Installation of pneumatic unload transfer systems complete with dust collectors, ship to terminal
- Truck drive-through in each silo for silo to truck unloading
- Installation of load-out system and control automation
- Startup and commissioning

### Lime FGD (Flue Gas Desulphurization) Silos and Pneumatic Injection Systems, Midwest USA (5 different projects)
- Erected welded silos for bulk lime additive for use in FGD system
- Installation of computerized, negative weigh product metering system from silo
- Pneumatic transfer blowers and line to ductwork for lime injection to flue gases
- Computerized controls with commissioning

### Cement Processing Plant, Southeastern USA
- Filter conversion to pulse-jet cleaning
- Project located on 4th level of plant
- Project executed during 14 day shutdown
- Project completed in 10 days — 4 days ahead of schedule

### Foundry Baghouse, Central Midwest
- Replace Electric Arc & #3 Melter phase 2 foundry baghouse with new IAC “M-Pulse” baghouse
- Install new ductwork and tie into existing ducting system
- New unit sized for 240,000 ACFM
- Install (3) new 400 HP and (1) new 150 HP fans
- Install required Motor Control Center and control automation
- “Tie-ins” executed over Easter, Memorial Day, and Labor Day weekends
- Union & Non-Union labor supplied for all steel erection, concrete foundations, siding, paint, electrical cabling, control automation, and commissioning

### Outage and Maintenance Turnaround Work
- 2 Refineries, Central United States
- Prefabricate pipe spools
- Hot tie-ins
- 100% X-ray weld testing
- Mild steel, stainless steel, chrome alloy welding
- 24/7 field work for 4-6 weeks at both locations

### Multiple Outages and Maintenance Work
- Cement Plant, Oklahoma
- Repair hammer mills
- Re-face hardened wear surfaces
- Install steel and ducting
- 24/7 field work for 1-2 weeks at a time

### Melt Shop Baghouse, Central South USA
- Installed 200,000 CFM air pollution control system for a steel mill melt shop
- System included baghouse, fans, ducting, stack and dust handling, pneumatic transfer equipment

### Renewable Fuel Pellet Plant, Central Midwest USA
- Installed the first grass-based pellet plant in the United States
- Plant will produce 100,000 TPY of bulk pellets for utility and institutional boilers and bagged pellets for the retail home stove markets

### Brewery, Southeastern USA
- Install central vacuum system with 5,000’ of tubing
- Pickup point installation from several points in plant
### Cement Processing Plant, Central Midwest USA
- Complete replacement of Alkali BLBAS baghouse
- Contract executed during plant shutdown, working 24 hours daily, with 14 day window
- Project executed ahead of schedule in 13 days

### Cement Processing Plant, South USA
- Three unloading and silo vent filters replaced while plant in operation – one filter at a time
- No plant downtime allowed
- Baghouse filters elevated on material storage equipment

### Cement Processing Plant, South USA
- Two new filters installed in truck load-out building while plant in operation
- Close-quarter project
- No plant downtime allowed

### Cement Processing Plant, Northeast USA
- Baghouse dust collector replacement project
- Several projects completed since 1995
- Filters replaced during plant turnaround

### Cement Processing Plant, Southeast USA
- Removal of existing baghouse filter, and replacement with new pulse-jet filter
- Filter installed on truck load-out facility
- Filter replaced during plant operation

### Cement Processing Plant, South USA
- Several different projects executed since mid-1990s. Key projects listed below
- New baghouse filter for limestone crusher
- New baghouse filter for sizing screen and transfer system
- New baghouse filters for electrical control room pressurization
- New baghouse filter for truck load-out silos

### Cement Mill – Separator / Terminal, Southeast USA
- Removal of existing baghouse filter, and replacement with new pulse-jet filter
- Filter installed on truck load-out facility
- Filter replaced during plant operation

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### CLIENTS SERVED
Adelphi personnel and Adelphi’s affiliated companies have served the following Fortune 700 clients on key projects:

- 3M
- AES
- AK Steel Holding
- Abbott Laboratories
- Alcoa
- Alleghany Energy
- Alliant Energy
- Alliant Techsystems
- Ameren
- American Electric Power
- Anheuser Busch
- Archer Daniels Midland
- Burns and McDonnell
- Caterpillar
- Cinergy
- Coca-Cola
- Colgate-Palmolive
- ConAgra Foods
- ConocoPhillips
- Corning
- Delphi
- Direct Energy
- Dow Chemical
- Duke Energy
- Dupont
- Eastman Chemical
- R.R. Donnelley & Sons
- Raytheon
- Reliant Energy
- Reynolds American
- Seaboard
- Sierra Pacific Resources
- Sinclair Oil Refinery
- Smithfield Foods
- General Motors
- Goodrich
- Goodyear Tire & Rubber
- Great Plains Energy
- Holcim Cement, USA
- International Paper
- Johnson Controls
- Johnson & Johnson
- Kellogg
- Kerr-McGee
- LaFarge Cement
- Land O’Lakes
- Louisiana Pacific
- MeadWestvaco
- Merck
- Monsanto
- Navistar International
- Nucor
- Occidental Petroleum
- Owens Corning
- PPG Industries
- PPL
- Pactiv
- Pfizer
- Phelps Dodge
- Proctor and Gamble
- Solutia
- TECO Energy
- Terex
- Tyson Foods
- USG
- US Steel
- Vulcan Materials
- Weyerhaeuser
- Xcel Energy
- Xerox
Building Goals & Expectations