



# Services and Capabilities

*Innovative Engineering Solutions for Process Industries*





## QUICK FACTS

- In Business Since 1984
- Offices Located in
  - Channelview, Texas
  - Port Arthur, Texas
  - Sarnia, Ontario
  - Toronto, Ontario
- Offering Engineering - Procurement - Construction Services
- Specialized in Instrumentation, Controls and Electrical Engineering
- Expertise is Automation and Safety System Design

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# COMPANY PROFILE

Paton has been synonymous with engineering excellence since it's inception in 1984. What began as a single office operation in Ontario, Canada is now a multi-location EPC firm with a diverse client base serving multiple market segments and geographical areas.

## WHERE WE ARE

### *Office Locations*

Paton has four locations in the United States and Canada. Our offices are interconnected in a virtual office space, which allows us to respond quickly and efficiently to project requirements by sharing our expertise and available resources in a way that is most cost effective to our clients.

#### **Houston**

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#### **Southeast Texas**

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Fax (905) 829-3204

## WHO WE ARE

### *Staff*

Paton believes that our greatest asset is our employees. By keeping our employees trained and up to date on the latest advancements in our field, we attract some of the best in the business. Our core employee base includes

**Draftsmen**

**Project Managers**

**I/E Technicians**

**DCS/PLC Programmers**

**INtools Administrators/Designers**

**Planners**

**Multi-discipline Engineers**

**Cost Controllers**

**Systems Engineers**

**Multi-discipline Designers**

**Construction Managers**

**Licensed Professional Engineers**

**Applications Engineers**

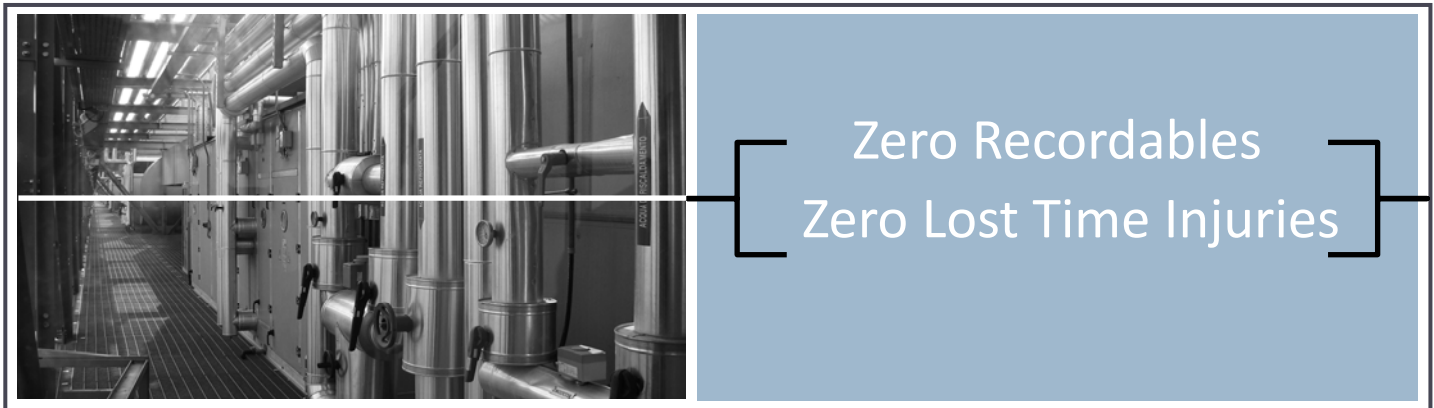
# COMPANY PROFILE

## WHO WE SERVE

### *Market Segments*

From energy, refining and chemicals to the food, beverage and automotive markets, Paton's strengths have always remained responsiveness and innovation. We believe that these strengths are reflected in the sum total of successful engineering projects and extensive list of repeat clients. We have completed projects ranging from ten thousand to twenty million and staffed long term, on site assignments ranging from CAD draftsmen to process engineers.

**Refining ▪ Petrochemical ▪ Power Generation ▪ Pipeline ▪ Food and Beverage ▪ Pharmaceutical**



## SAFETY IS JOB ONE

### *Safety Record*

There is no higher priority at Paton than workplace safety, and the proof is in our safety record. We attribute this exceptional performance to high standards and our employees' commitment to follow best practices at all times.

Paton has established several programs and procedures to provide its management, employees, subcontractors and clients with a firm understanding of Paton's position regarding the prevention of all accidents. Some of Paton's safety programs include

**Site Accident Prevention Program  
Employee Training/Orientation  
Emergency Plan  
Job Safety Analysis**

**Jobsite Safety/Health Inspections  
Monthly Onsite Safety Meetings  
Daily Onsite Toolbox Meetings**

# ENGINEERING

## HOW WE EXECUTE

### *A Phased Approach to Engineering*

We know how to manage all aspects of even the most complex projects, from feasibility to operations. Paton has experience in all aspects of the project life cycle allowing us to offer seamless transition through each phase.



### Services and Capabilities

Feasibility Studies  
Cost Estimating  
Design Basis

Project Execution Plan  
System Definition  
Product Specification

Detailed Design  
Procurement  
Configuration  
Programming  
System Staging  
Cutover

Installation  
Fabrication  
Integration  
Checkout  
Commissioning

Systems Support  
Operator Training  
Asset Management  
Reliability Studies

This phased approach allows for greater management control giving way to **reduced Total Installed Cost (TIC)** of the project. A consistent path methodology such as this gives Paton the opportunity to capitalize upon efficiencies as well as best practices. Through this approach we understand the importance of constructability and longevity of design.

## WHAT WE DO

### *Capabilities*

Paton offers a full range of **Multi-Discipline Engineering, Design, Procurement** and **Construction** services to meet the individual needs of our diverse client base. Our core competency experiences include, but are not limited to

### ENGINEERING SERVICES

- **Field Instrument Specification**
- **Field Wiring and Cable Tray Design**
- **Electronic and Pneumatic Instrumentation**
- **SCADA Systems**
- **Product Custody Transfer Applications**
- **Analyzer Systems**
- **Annunciation, Monitoring and Data Logging Systems**
- **Control Room Design**
- **Panel Fabrication Details**
- **Power Distribution**
- **Plant Electrical Studies**
- **Heat Tracing Design and Control**
- **Piping Design**
- **Civil/Structural Design**

### WHY PATON

#### ▪ **Relationships**

Paton quickly develops close relationships with it's client to gain an in depth understanding of their processes and needs.

#### ▪ **Niche Specialization**

Being the supplier of choice by offering not only multi-discipline engineering and construction but specializing in automation and controls.

#### ▪ **Reputation**

An excellent reputation for innovation, responsiveness, flexibility and quality has created a strong foundation of repeat clients.



## WHAT MAKES US DIFFERENT

### *Specializations*

#### DCS IMPLEMENTATION AND UPGRADES

Paton has implemented control systems solutions using most of the major Distributed Control Systems and has experience ranging from grass roots plants to re-platforming of obsolete systems. Our design teams develop cutover strategies that suit your project needs - hot cutover/turnarounds or a combination of both.

##### SERVICES INCLUDE

- Point Configuration
- Graphics Development
- Database Conversion
- Third Party Interfacing
- Power Distribution & Grounding System Designs
- Vendor and Equipment Evaluation and Selection
- Factory Acceptance Testing
- Loop and System Checkout
- Commissioning & Startup

##### SYSTEMS IMPLEMENTED

- Honeywell Experion PKS
- Honeywell TDC 2000 and 3000
- Emerson Delta V / Provox
- Bailey INFI 90 and NET 90
- Foxboro IA
- Foxboro Videospec/Microspec

#### PLC IMPLEMENTATION AND UPGRADES

Paton takes pride in our vast PLC project experience with hundreds of projects completed to date. We develop every application by carefully implementing quality management at each step of the development process. Our engineers have the technical knowledge and experience to lead each project from inception through to commissioning and startup.

##### SERVICES INCLUDE

- Ladder Logic and Control Scheme Development
- Vendor Evaluation and Selection
- Hardware and Software Configuration
- Third Party Interfacing
- Network Design
- Factory Acceptance Testing
- Commissioning & Startup

##### SYSTEMS IMPLEMENTED

- Allen-Bradley
- Modicon
- Siemens
- GE Fanuc
- Honeywell
- Texas Instruments
- Modbus/Modbus Plus Networks
- RTP

## SAFETY INSTRUMENT SYSTEMS

Paton Controls has tremendous experience in Safety Instrumented Systems (SIS) with an emphasis on **Burner Management and Furnace Shutdown Systems**. The use of best practices and the latest codes such as ISA-SP84, IEC-61511 and TUV, allow us to meet or exceed our customers SIS requirements.

Safety Systems require the utmost attention to detail from engineering and management personnel. Paton's engineers have the in-depth knowledge and experience in determining SIL (Safety Integrity Level) and layers of protection to help our clients choose the right technology.

### SERVICES INCLUDE

- **SIS Design and Engineering**
- **Safety Lifecycle Management**
- **Hazard and Risk Assessment**
- **Configuration and Testing**
- **Integration into DCS**
- **Redundancy Issues**
- **Commissioning & Startup**

### SYSTEMS IMPLEMENTED

- **Triconex**
- **RTP**
- **Trident**
- **HMA (ELOP-1)**
- **HMA (ELOP-2)**
- **Moore Quadlog**
- **Siemens**
- **GE Mark V, VI, VIe**

Paton has teamed up with Trinity Integrated Systems, a software developer of requirement capture, safety lifecycle management and engineering software tools. It is through this partnership that Paton offers **TriDefine**, a **Lifecycle Management** software suite that enables the user to accurately define and capture the functional requirements of any new or existing application, providing added value throughout the safety lifecycle.



TriDefine's key features include

- **Requirements Capture and Documentation Tool for Safety and Control System Design & Management**
- **Safety Lifecycle Management Tool, Used Throughout the Lifecycle from Concept Through to Operations & Modifications**
- **Engineering Toolbox for Simulation, Detailed Design, Functional Testing, Documentation, Code Generation and Management of Change**



## APPLICATIONS AND SYSTEMS SUPPORT

### SERVICES INCLUDE

- Tag Building
- Batch/Sequence Logic
- Advanced Controls
- Historian (PI, PHD)
- Graphics Development (Using ASM Guidelines)
- Application Specification and Implementation
- Database Conversion
- Third Party Interfacing (PLC's, Lab Data, Analyzers, Etc.)
- Network Design, Specification and Implementation
- System Configuration

### SYSTEMS IMPLEMENTED

- Honeywell Experion PKS
- Honeywell TDC 2000 and 3000
- Emerson Delta V / Provox
- Bailey INFI 90 and NET 90
- Foxboro IA
- Foxboro Videospec/Microspec



# CONSTRUCTION

Paton provides construction and construction support services on a multitude of projects. We offer a complete portfolio of services that range from stand-alone construction solutions to multi-disciplinary engineering and construction, turnkey projects.

Our design and construction groups work together to maximize constructability of our packages. We excel at delivering the best quality, safety and constructability all the while ensuring long-term maintainability and reliability.

Paton's corporate commitment to achieving safety excellence on all of our projects supports our philosophy that "Nobody Gets Hurt". Our construction management teams set the precedence for all contractors and employees on site, and in turn, create the "work safe" culture necessary for achieving Zero Injuries.

Paton's construction professionals possess the skills needed to plan and execute a project from the conceptual phase to the startup of a revenue-producing facility. Our experts are supported by the latest tools and test equipment the industry has to offer.

## Service Offerings

- **DCS/PLC Control System Installation**
- **Pneumatic and Electronic Instrumentation**
- **Lighting Design/Installation**
- **Panel Integration**
- **Grounding Systems**
- **Data/Network Installation**
- **Building Installations**
- **Facilities Wiring**
- **Maintenance**
- **Electrical Testing/Troubleshooting**
- **Loop Checking**
- **Preconstruction planning**
- **Constructability Reviews**
- **Site selection studies**
- **Subcontract management**
- **System turnover management**
- **Quality assurance and quality control**
- **Material control management**
- **Project control management**
- **Change management**

## Affiliations

Paton employs both non-union and union personnel. Our union affiliations include

IBEW Local 479 - Beaumont, Texas

Pipefitters Local 195 - Beaumont, Texas

Paton's depth of personnel includes locally licensed craft persons, **ISA & EPRI** certified instrument technicians and **Corn-ing** certified technicians.

TDLR# 25491

Regulated by The Texas Department  
of Licensing and Regulation

P. O. Box 12157

Austin, Texas 78711

1-800-803-9202, 512-463-6599

website: [www.license.state.tx.us/complaints](http://www.license.state.tx.us/complaints)



*At the completion the recent EPLA-S outage... "It was a non-event." – Customer*

# RECENT PROJECT HISTORY

**PROJECT** PTR4 BMS Upgrade - Burner Management System Upgrade

**LOCATION** Beaumont, Texas

**CONTRACT TYPE** Engineering, Procurement and Construction

## **PROJECT DESCRIPTION**

The PTR-4 Burner Management System (BMS) Upgrade Project addressed BMS deficiencies highlighted in a Refinery Furnace Instrumentation Risk Assessment. Paton's scope included detailed instrument/electrical engineering, TDC3000 applications development, Triconex & Wonderware programming and configuration, migration planning/strategy development, construction support, commissioning/startup support and construction.

**PROJECT** PMX Migration - Control System Upgrade

**LOCATION** Baytown, Texas

**CONTRACT TYPE** Front End and Detailed Engineering

## **PROJECT DESCRIPTION**

The PMX Migration Project consisted of the removal and replacement of an existing Honeywell PMX Process Control System with a Honeywell Experion Process Control System. Project scope included installing 5 new consoles for control room, Experion servers, ACE nodes, C300 controllers, engineering stations, FTE network, hardware, cabinets, cabling, wiring, UPS systems, communications network equipment, process controls LAN equipment and multiple networks (analyzer, electrical, instrument, etc.). The project included approximately 7500 I/O with 90% cut-over hot. Paton's scope included front-end project scoping, detailed instrument/electrical engineering, Experion and PLC programming, systems engineering, migration planning/strategy development, construction/loop migration support and commissioning/startup support.

**PROJECT** GE MKIV Upgrades - Control System Upgrade

**LOCATION** Baytown, Texas

**CONTRACT TYPE** Front End and Detailed Engineering

## **PROJECT DESCRIPTION**

The GE MKIV Upgrades Project involved the migration of three GE MKIV control systems to new GE MKVI systems. Project scope also included the upgrade of GE fire protection systems to Tridents and upgrade of interfaces to plant control systems (DCS, Alarm, Machine Monitoring, etc.). The project included approximately 1500 I/O wired between GE, Triconex and Honeywell. Included was the upgrade of various field instrumentation associated with turbines as well. Paton's scope included the front-end project scoping, detailed instrument/electrical engineering, PLC and HMI programming, migration planning/strategy development, construction/loop migration support and commissioning/startup support.

## RECENT PROJECT HISTORY

**PROJECT** DAS Configuration - Applications Engineering

**LOCATION** Middletown, Ohio

**CONTRACT TYPE** Programming, Configuration and Graphics Design- Grass Roots

**PROJECT DESCRIPTION**

The Distributed Automation System (DAS) Configuration Project consisted of a Honeywell Experion PKS system. Project included 3rd party interface to PLCs, motor controller, variable frequency drives and switchgear are connected to the controllers using ModBus TCP and Ethernet IP. The system included Honeywell operator stations and Industrial PDAs operational across a Honeywell Mesh Wireless Network. The DAS is the operator interface for all plant equipment including those which have independent controllers and/or part of purchased packaged systems. Paton's scope included programming, configuration and graphics development for approximately 5,000 hard-wired points and 5,000 PCDI points.

**PROJECT** Utilities Console Migration - Controls and BMS Upgrade

**LOCATION** Baytown, Texas

**CONTRACT TYPE** Front End and Detailed Engineering

**PROJECT DESCRIPTION**

This project consisted of the migration of the Utilities console and associated control system from Honeywell TDC2000/PMX to TPS/TDC3000. This was the first installation of TPS/TDC3000 at this facility. Approximately 2500 I/O including 800 hot cutovers were migrated from TDC2000 and IPC620 PLC's to 8 new TDC3000 HPM's. One new Triconex system dedicated for SHE critical alarms was installed. This project also included a complete upgrade of the BMS system for the 4 power boilers. Paton's scope included front-end project scoping, detailed instrument/electrical engineering, TDC3000 applications development, Triconex & Wonderware programming and configuration, migration planning/strategy development, construction/loop transfer support and commissioning/startup support.

**PROJECT** Instrument Obsolescence Project

**LOCATION** Baton Rouge, Louisiana

**CONTRACT TYPE** Detailed Engineering and Procurement

**PROJECT DESCRIPTION**

The purpose of the Instrument Obsolescence Project was to address obsolete instrument equipment at a world scale Olefins plant including several Reactor Triconex Systems, Steam Turbine Control Systems, Compressor Controls Systems, UPS Systems and building modifications. This large capital project also included several smaller expense projects also awarded to Paton. Paton's scope included civil modification, piping modification, instrument and electrical engineering, programming and configuration, migration planning/strategy development, FAT support, SAT support, commissioning and startup support.

# CONTACT US



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