



***Dynamic***  
*PLANT DESIGN*

Process Facilities Engineering &  
Design

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Safety – Quality - Efficiency



## About Us

We focus on delivering cost efficient, quality design packages, without the excessive overhead and high cost associated with larger firms, without compromising safety and quality.

We work with leading-edge technologies, such as steady state simulators, laser scans and 3D CAD models, resulting in high-quality design at an affordable cost. Our cost savings result from our across-the-board efficiencies, resulting in fewer engineering hours, less field rework, lower material surpluses, and shorter schedules.

## Our Mission

To provide and sustain a level of excellence and high standards that meet and exceed our client's expectations in an innovative, cost effective, and professional manner.



**PE+LS** Texas Board of Professional  
Engineers and Land Surveyors

## Registrations & Certifications

Dynamic Plant Design currently maintains the following registration and certification.

Texas Board of Professional Engineers  
(TBPE) – Firm No. F-23360

Experienced in every stage of a project's lifecycle.



## Projects Experience

- Pipelines
- Petrochemical
- Offshore
- Food and Beverage

## Facilities Experience

- Processing units
- Tank farms
- Ship docks
- Pipelines
- OSBL
- Truck, and Rail Car loading docks

## Execution Experience

- Revamps / Turnarounds
- Expansion Projects
- Process Modifications
- Capital Projects



## Engineering

- Process Engineering
- Mechanical Engineering
- Electrical Engineering
- Instrumentation & Controls
- Civil Structural Engineering

## Process Facilities Layout & Design

- Piping Design
- Civil Structural Design
- Instrumentation Design
- Electrical Design

## Engineering - Design Support

- Field As-Built (All Disciplines)
- P&ID Walkdowns & Updates
- Field Troubleshooting
- Construction Follow-up
- Spool Fabrication Follow-up
- Laser Scanning
- Drafting Support

## Conceptual Process Design

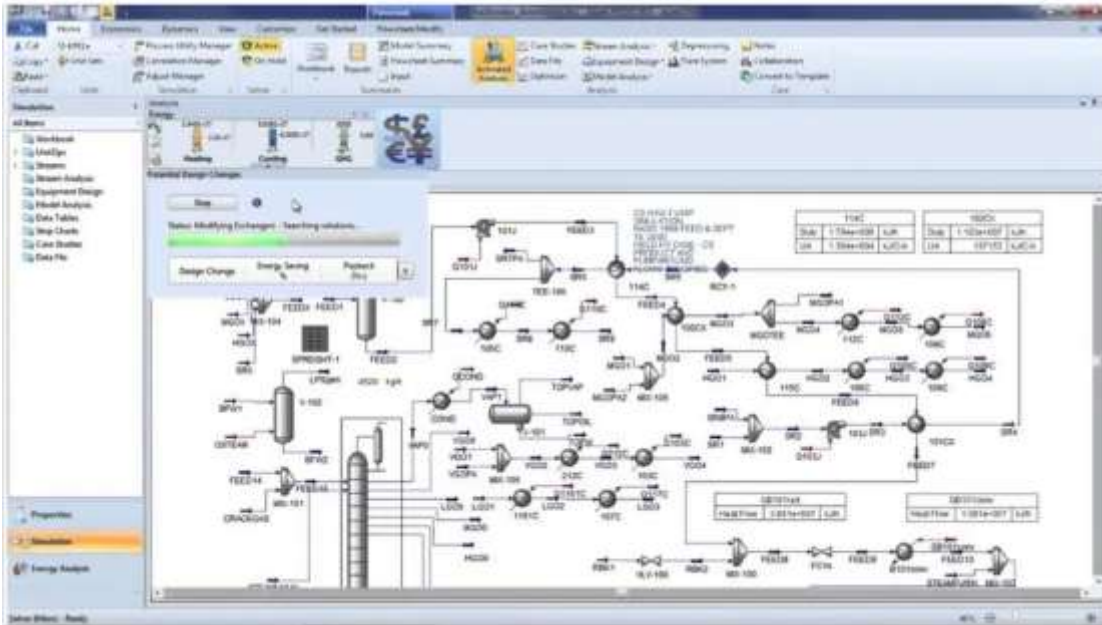
- System Hydraulic Analyses
- Design Basis Development
- Process Feasibility Study
- Technical And Economic Evaluation
- Process Alternatives And Options
- Preliminary Process Design Package (PDP)
- Front End Engineering Design (FEED) Package

## Process Simulation & Modeling

- Detailed Heat And Material Balances
- Detailed Heat Exchanger Design And Rating
- Complex Hydraulic Analyses
- Relief Valve Studies

## Software Expertise

- CHEMCAD®
- ASPEN PLUS®
- HYSYS®
- PRO/II®





- Data Gathering & Baseline Assessment
- Mechanical Integrity Assessment Support
- Equipment Sizing & Specifications
- ASME Calculations
- Vessel Shop Drawings
- Nozzle Design Drawings
- Skid Packages
- Codes & Standards
- Equipment Settings Plans
- Stress Analysis
- Finite Element Analysis
- Turbo Machinery
- Rotating Equipment
- Stationary Equipment
- Chillers and Refrigeration
- Boilers
- Dust Collection
- Energy Recovery Equipment
- Bulk Materials Handling
- Hydraulic Controls
- Machine Upgrading
- Mechanical Integrity Support
- Technical Services



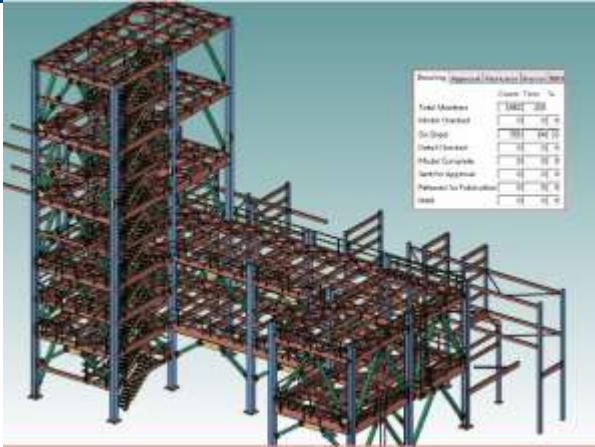
- Data Gathering & Baseline Assessment
- Load Modeling
- One Line Development
- Arc Flash Analysis
- Substation Design
- Class I / Division I Design
- Power Distribution
- Protective Relay Coordination
- Energy Audits
- Energy Management Systems
- Equipment Layout
- Equipment Specification
- Facility Design
- Fire & Security Systems
- Lighting & Lighting Controls
- Lighting Protection
- Machine Control
- Start-up Planning & support
- Technical Services





- Data Gathering & Baseline Assessment
- System Design & Device Specifications
- Distributed Control System (DCS)
- Safety Instrumented Systems (SIS)
- Human Machine Interface
- Hybrid Control System
- Process Control Studies
- Programmable Logic Controls (PLC)
- Supervisory Control & Data Acquisition System (SCADA)
- Field Checkout & Commissioning
- Technical Support Services





## Structural Engineering

- Data Gathering & Baseline Assessment
- Structural calculations
- Shoring Plans
- Structural Repairs
- Foundation Design
- Modular Design
- Pre-assembly Design
- Geotech Reviews

## Civil Engineering

- Grading / Earthwork
- Sewer & Run-off Hydraulic Modeling
- Sewer Assessment & Design
- Road Design
- Railroad Tracks
- Site Planning
- Underground Utilities



## Design

- Cover Sheets and Drawing Indexes
- Process Flow Diagrams (PFD)
- Piping & Instrumentation. Diagrams (P&IDs)
- Line Lists, Tie-in List
- Demolition Drawings
- Equipment Loc. Plan
- Tie-in Loc. Plan
- Piping Arrangements
- Piping Isometrics
- Piping Plans & Sections
- Project Bills of Materials

## Modeling

- 3D Civil, Structural, equipment & piping CAD models (.dwg)
- Navisworks models
- Laser Scan files (Recap)
- Loaded Piping Specifications



- Single Line Structural Drawings (Plan & Elevation)
- Pipe & Equipment Support Plans, Sections & Details
- Structural Steel Detailing Shop Drawings
- Shop Bolt Lists, Field Bolt Lists, Material Summary
- Foundation Details, Location Plans & Sections
- Auger Pile Location Plan & Details
- Rebar Detailing Drawings, Reinforcing Plans
- Tank Platform Clip Plans & Details
- Base Plate, Anchoring, Equipment Walkway
- Handrail, Splicing Details
- Grating Details



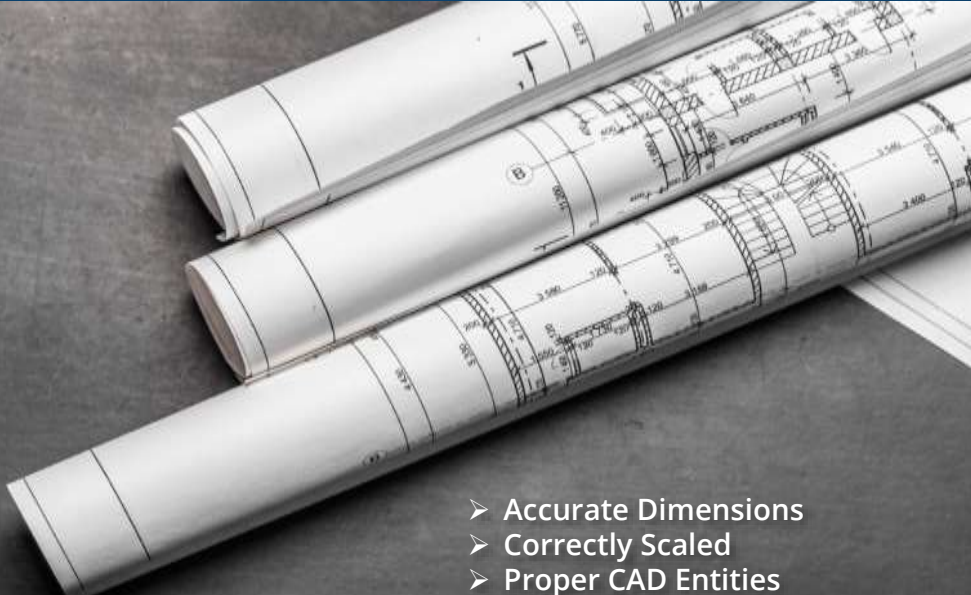


- P&ID Preparation & As-Built
- Instrument List
- Instrument Loop Diagrams
- Instrument Plans
- Marshalling Panel & Field Junction Boxes
- Instrument Installation Details
- Instrument Data Sheets





- One-Line Diagrams
- Motor Control Schematics
- MCC Plan & Elevations
- Conduit Plans & Details
- Underground Duct Banks
- Cable Tray Design
- Heat Tracing
- Electrical Grounding
- Area Lighting
- Conduit & Cable Schedules

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- Accurate Dimensions
  - Correctly Scaled
  - Proper CAD Entities
  - Layers to CAD Conventions
  - Line Types and Weights
  - Hatching and Fills
  - CAD Editable Text & Symbols
  - Quality Assured
  - Attributed Text
  - Blocks

## Let Us Handle Your Work Backlog

Give Us Your Models & We'll Do The Detailing

- Piping & Instrumentation Diagrams
- Piping Isometrics
- Vessel Drawings
- Piping Arrangement Plans
- Structural One-Line Drawings
- Structural Fabrication Drawings
- Electrical Schematics
- Instrumentation Loop Diagrams

## Drawing Editing From Mark-ups

Let Us Handle Your Red-lined Drawings

- Piping & Instrumentation Diagrams
- Piping Isometrics
- Vessel Drawings
- Piping Arrangement Plans
- Structural One-line Drawings
- Structural Fabrication Drawings
- Electrical Schematics
- Instrumentation Loop Diagrams

3D laser scanning is a means of obtaining a 360-degree data capture that provides a three-dimensional view of an item, or topographic area. The shape, position and locations of objects are recorded by the laser light creating a point cloud. The point clouds can also be inserted into a CAD model for design purposes. 3D laser scanning allows capturing complex objects with lightning speed and perfection.

## APPLICATIONS:

- Capture Topo. Data For Civil Engineering & Planning
- Structural & Piping Additions In A Congested Space
- Map Out Existing Structure, Piping, & Conduit
- Re-purposing A Space & Need As-built Drawings
- Structural Analysis & Maintenance
- Get Sections, Elevations, Floor Plans & Maps
- Getting As-built 3D CAD Models of Your Facility
- Construction Progress Monitoring
- Virtual Site Visitation
- Offsite Production
- Presentations For Proposals & Bids
- Replanning Of Technical Modifications
- Reverse Engineering
- Conversions & Extensions
- Crime Scenes Investigation & Analysis





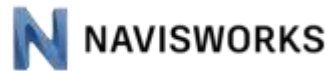
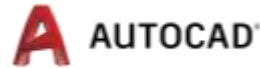
## Process Simulation



Aspen HYSYS

AVEVA™ PRO/II Simulation

## Design



**Bentley**



## Laser Scanning



If you would like to  
become more  
efficient, save time,  
money and greatly  
**reduce risk...**

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**...Give Dynamic a call!**

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Mobile: (832) 746-1497

We thank you for your attention.  
We are looking forward to working with you and contribute  
to the success of your business objectives.

### Office location

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1322 Space Park Dr, Suite B131  
Houston, TX 77058

### Contact us

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Mobile: (832) 746-1497  
[contact@dynamic-pd.com](mailto:contact@dynamic-pd.com)

DYNAMIC PLANT DESIGN



QUALITY 100% GUARANTEED