




IMAGE CUSTOM ENGINEERING SOLUTIONS

COMPANY OVERVIEW

IMAGE Custom Engineering Solutions, LLC (IMAGE) is an internally owned and operated Texas based Limited Liability Company established in 2003. A Registered Professional Engineering Company, IMAGE maintains certifications, HSE compliance policies, procedures, insurances and accountabilities to maintain value and security for our clients. Integrating with client teams for cost effective applications to total project design control, IMAGE maintains a high level of project success.

A history of providing valuable, accurate and on-time Engineering Design Services for small to major energy related projects in the following sectors:

- Wellhead Production
 - Gathering & Treating
 - Energy Transmission
 - Infrastructure & Storage
 - Power Generation
 - Petrochem & Refining
 - Enhanced Oil Recovery
 - Produced Water Management
- 
 - Renewables, Recycle & Reuse
 - Emerging Technologies

From Research & Development support, FEL Studies, Project Management, Detailed Engineering and Design, Field Scanning, and Supply Chain Management for both greenfield and brownfield initiatives, IMAGE provides services applying the latest available technology including, when warranted, 3D CAD intelligent design utilizing an in house developed custom software solution that deliver Bills of Material ready for purchasing, improved communications across disciplines, effective document control, improved reliability, and better productivity resulting in project quality, cost, and delivery goals. IMAGE is your go-to service provider.

From Concept to Detail to Construction Support

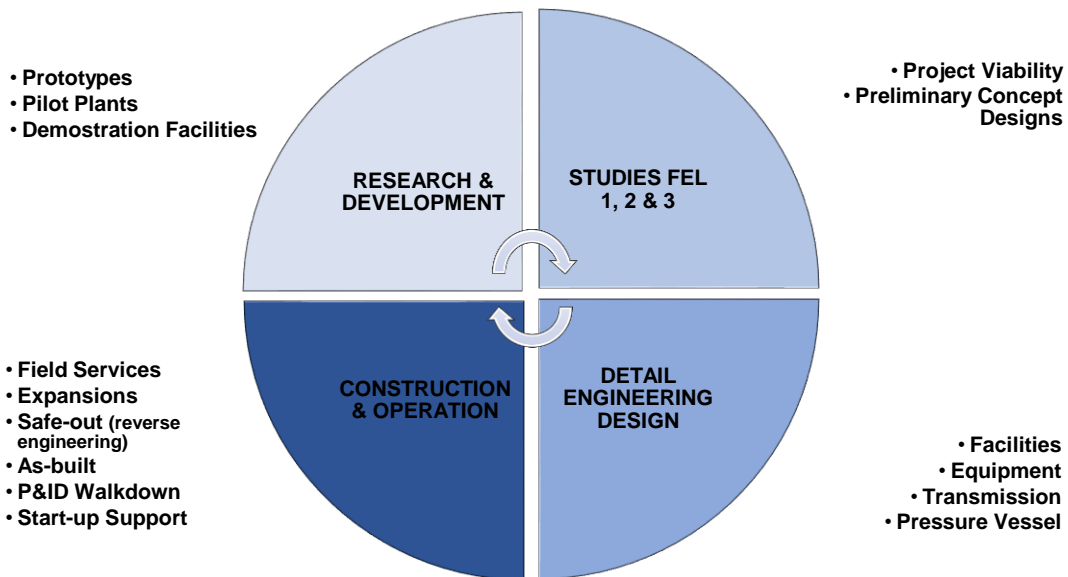




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COMPANY OVERVIEW

RESEARCH AND DEVELOPMENT (R&D)

From so called “better mouse traps” to applications incorporating emerging technologies, we provide innovative and viable development of our client’s inspirations. Once acquainted with concepts and objectives, IMAGE associates are engaged for their creativity and logical experiences to develop designs for prototypes, pilot plants, demonstration facilities or directly into production. IMAGE looks forward to developing our customer’s novel and lucrative applications for more efficient processes, better mechanical designs, innovative controls, plus new areas of energy production and conservation.

STUDIES – FEL 1,2&3

From preliminary viability studies to Front-End-Loading (FEL) applications, IMAGE provides services supporting R&D initiatives through capital improvement projects. IMAGE provides FEL 1, 2, & 3 level services. For FEL-1 we focus on heat and material balances and Project Scope to determine a stop or go forward path. An FEL-2 effort customarily determines project viability through the production of preliminary equipment designs, layouts, utility consumptions, schedules and estimates. We also produce data sheets for major equipment and solicit vendor quotes then factor or use current market data to help determine project viability.

Once a project is deemed safe, feasible and economically viable, IMAGE will perform an FEL-3. Deliverables for this phase traditionally include purchase ready Data Sheets, discipline Specifications, a +/- 10% TIC estimate, overall Project Execution Plan, Control Philosophy, I&E Equipment List, P&ID’s and conceptual 3-D Model.

FACILITY DESIGN

IMAGE Custom Engineering Solutions offers Turnkey facility Engineering Design when project scopes are defined. From a simple Pressure Reduction and Metering Station to an entire Gas Processing Plant, IMAGE provides Process, Mechanical, Civil, Electrical and Instrument Design. IMAGE applies the latest technology including 3D CAD design for faster, more accurate deliverables. All project related documents are issued through ShareFile which boasts Intelligent P&ID’s, Intelligent 3D Models, and scaled drawings that can be viewed and printed 24/7 from anywhere our customers have an Internet connection or mobile devices. IMAGE will provide Bulk MTO’s for all required materials and provide Add/Delete MTO’s to your procurement staff when a change is required. IMAGE employs wide use of in house developed custom software solutions to expedite the Design Phase deliverables. Our understanding of the fabrication processes, materials, costs, quality, and industry codes help us design a facility that is efficient, affordable, and safe to build and operate.

RENEWABLE, RECYCLE, & REUSE

Along with traditional Oil & Gas production Engineering Design, in recent years IMAGE, has increasingly engaged in recycle, reuse and renewable projects. We supported designs for solar powered Power Packs, balance of plant development for proprietary patented reactors, IMAGE has designed and implemented bio-diesel applications, been involved in waste to syngas applications, hydrocarbon-based waste material to diesel applications and patented tire recycling processes. Taking our years of learned experiences into these new and exciting forms of energy conservation and production continues to add value to our clients and community.



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COMPANY OVERVIEW

DISCIPLINES

PROCESS ENGINEERING

- Registered Professional Engineers
- Front End Development
- Simulations using Hysis or ProMax Software
- Heat and Material Balances
- PFD's & P&ID's
- Hydraulics

MECHANICAL ENGINEERING AND DESIGN

- Registered Professional Engineer's on staff for required stamps and tasks
- [Pressure Vessel Design \(ASME Section VIII, Division 1 and 2\)](#)
- Vessel Fabrication Drawings
- Interactive Intelligent P&ID Development
- Equipment, Valve, Instrument & Line Lists
- Engineered Bill of Materials Development
- 3D CAD Design Review- virtual walk through for HSE/OPS
- ASME Pressure Vessel calculations including local stress calculations
- General Mechanical Engineering
- Pipe Stress Analysis
- Finite Element Analysis
- Plant Layout and Section Details
- Equipment General Arrangement Drawings
- Piping Isometric Drawings
- Engineering Data Acquisition
- Project Engineering / Project Management
- Databook Compilation
- Material Procurement
- Construction Surveillance
- Witness and document factory acceptance test

CIVIL / STRUCTURAL ENGINEERING AND DESIGN

- Foundation Calculations
- Civil Engineering calculations
- Foundation Location Plans
- Skid and Equipment Concrete Plans & Elevations
- AISC Structural calculations (Onshore and Offshore)
- Structural Skid Design & Detail Drawings
- Rebar Schedules



IMAGE CUSTOM ENGINEERING SOLUTIONS

COMPANY OVERVIEW

- Plot plan
- Foundation drawings
- Anchor bolt design and location drawings
- Professional engineer stamped as required
- Bill of Material

INSTRUMENT / ELECTRICAL ENGINEERING AND DESIGN

- Cause & Effect Diagram
- One-line diagrams
- Loop Diagrams
- Switch Gear / Motor Control Center (MCC) Design
- Electrical / Control Panel design, Details and diagrams
- Electrical equipment location plans
- Cable tray drawings; plan, loading and details
- Cable Schedules: power, motor control and lighting
- Equipment Grounding Details
- Instrument installation details
- Electrical power load list
- Electrical Installation Details
- Block and Wiring Diagrams / Details
- Instrument Specification Development
- Hazardous area classification plans and details
- I/O Area Plan
- Interconnection wiring diagrams
- Grounding and Lightning Protection
- Lighting plans and details
- Electrical interface/wiring details drawings
- Heat Tracing plans and details
- Control system communication cable layout
- Fire & Gas Plan and Details
- Remote equipment / interface drawings

EQUIPMENT ENGINEERING AND DESIGN

IMAGE offers a broad range of Engineering Services specializing in Equipment Engineering & Design for packaged equipment fabricators and processing facility construction companies. Typical equipment packages include:

- [Compressor Stations](#)
- [Amine Plants](#)
- [Stabilizer Assemblies](#)
- Fuel Gas Conditioners
- [Pressure Vessel Design \(ASME Section VIII, Division 1 and 2\)](#)
- Choke Assemblies
- Sump Tanks
- Separators
- [Dewpoint Control Plants](#)
- [Cryogenic Gas Plants](#)
- [JT Skids](#)
- Pressure Reduction & Metering Stations
- Biocrude Processing Plants
- Pump Stations
- [Truck and Rail Loading Terminals](#)
- Filter Separators



IMAGE CUSTOM ENGINEERING SOLUTIONS

COMPANY OVERVIEW

- Compression Packages
- Glycol/Gas Contactors
- Glycol Reboilers
- Line Heaters
- Sand Traps
- Coalescers
- Air Receiver Tanks
- Meter Skids
- Flash Tanks
- Heat Exchanger Assemblies
- Gas Chromatograph Assemblies
- Chemical Injection Assemblies
- Production Units
- Heater Treaters
- Slug Catchers
- Pig Launchers & Receivers
- L.A.C.T. Units
- Free Water Knockouts
- LNG Storage Tanks
- [Gas Dehydration](#)
- Hydrocyclones
- ESD / SDV Assemblies
- Equipment Structural Skids
- Access Ladders & Platforms

IMAGE offers the following services in our Equipment Engineering Packages.

- P&ID Development
- [Pressure Vessel Design \(ASME Section VIII, Division 1 and 2\)](#)
- Vessel Fabrication Drawings
- Equipment, Valve, Instrument & Line Lists
- Engineered Bill of Materials Development
- 3D CAD Design Review- w/ virtual walk through
- Pipe Stress Analysis
- AISC Structural calculations (Onshore and Offshore)
- Finite Element Analysis
- Structural Skid Design & Detail Drawings
- Equipment General Arrangement Drawings
- Piping Isometric Drawings
- Material Take-Off (BOM) Development
- Project Engineering
- Project Management
- Material Procurement Support
- Fabrication Surveillance
- Witness and document Factory Acceptance Test

COMPRESSION ENGINEERING AND DESIGN

Those who know about compressor package design know that a lot of experience goes into a good design and that a lack of experience can be a disaster. With well over 100 years in accumulated compression packaging experience, the IMAGE team will help you avoid the common pitfalls and provide a repeatable path to success. From front end P&ID development, to the tedious details required for an economical yet robust foundation, IMAGE has the ability to perform.



IMAGE CUSTOM ENGINEERING SOLUTIONS

COMPANY OVERVIEW

- Intelligent P&ID's with live Data Base
- General Arrangement Drawings
- Scrubber & Bottle Drawing and ASME code Calculations
- Enhanced Weight and CG calculation Method
- 3D model (with Smart Design Review via EDGE 360)
- Structural Steel Skid Base and Misc. Steel
- ISOGEN generated Isometric Drawings
- Detailed Bill of Materials delivered in Excel

IMAGE can handle all the details required to deliver success. Confirming major equipment performance, managing Pulsation & Torsional Study, working with panel vendor, performing ASME code calculations, structural analysis, lift analysis, PSV sizing, recycle control, startup bypass sizing, settle out calculations, coupling selection, sizing cooler sheaves. These are just a few of the things that are often overlooked or under evaluated. Not all the above is necessary in every design but knowing when to ask the question is paramount. IMAGE will help you identify all the hazards as appropriate for your particular design and then provide the support to properly evaluate solutions and mitigate risk.

FIELD SERVICES

IMAGE Field Services provides a fast, safe and accurate alternative to antiquated "Tape and Level" As-Built development. Instead, accurate 3D models of Piping systems are developed using CADWorx fieldPipe for Leica fieldPro, leveraging the speed of "Point and Shoot" Measurement with the power and precision of Laser EDM technology aboard the Leica Geosystems' Total Station. This software allows IMAGE to model any piping system with pinpoint accuracy. IMAGE can develop 3D plant models on-site and in real-time. This dimensional and material information can then be used to generate accurate Fabrication and Assembly Isometric drawings, Bills of Materials, Weld Maps, Cut Lists, and more. All this can be generated in the field on demand and approved and verified in real-time on-site.

- As-Built Dimensioning
- Accurate "Tie-in" Locations
- Overhead or Difficult to Access Piping
- Dimensional Survey for Stress Analysis
- Piping Dimensional Validation

***IMAGE remains competitive and flexible supplying our related industry
with client support that meets each project's needs.***



IMAGE CUSTOM ENGINEERING SOLUTIONS

COMPANY OVERVIEW

KEY PERSONNEL

Don Nuckels, P.E. President
Ryan Bromm Vice President
David Hopson Business Development
Chris O'Brien Engineering Manager
Stewart Kaiser Design Manager
Greg Miller Field Services

REGISTRATIONS / CERTIFICATION

- ISNetworld
- Houston Area Safety Council
- Contractors Safety Council
- Industrial Safety Training Council
- Texas Board of Professional Engineers - Registered Engineering Firm
- Louisiana Professional Engineering and Land Surveying Board - Registered Engineering Firm
- Kansas State Board of Technical Professions - Registered Engineering Firm

LIST OF PROJECTS

SMALL PROJECTS -Recent Projects

- Modular Amine Plants
- 7.5 GPM
- 30 GPM
- 60 GPM
- 100 GPM
- 400 GPM
- Top Sides for Marine Capture Vessel
 - HP Separator Modules
 - LP Separator Modules
 - Degasser Modules
 - Pipe Rack Modules
 - Methanol Pump Modules
 - HP Inlet Choke Modules
- Nitrogen Generation Packages
- Sand Separator Packages
- Well Test Separator Packages
- Pig Launcher and Receivers
- Modular Pipe racks for onshore service
- Offshore Dehydration package
- Sulfa Treat Vessels
- Heater Treaters
- 2 Phase and 3 Phase Separators



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COMPANY OVERVIEW

- Filter Separators
- Line Heaters
- Glycol Regeneration Packages
 - 125M
 - 250M
 - 375M
 - 500M
 - 750M
 - 1.0MM
 - 1.5MM
 - 2.0MM
 - 2.5MM
 - 3.0MM

COMPRESSION-Recent Projects

Drivers

- Caterpillar
 - G3304B NA
 - G3306B NA
 - G3306B TA
 - G3508B LE
 - G3512B LE
 - G3516B LE
- Cummins
 - KTA19GC
- Waukesha
 - L7044 GSI
- Electric Drive
 - 1500 HP
 - 200 HP

Compressors

- Ariel
 - JGT/4
 - JGA/4
 - JGJ/4
 - JGQ/2
 - JGP/2
 - JGC/4
 - JGD/4
- GE
 - H302
- NGSGI
 - CIP PXT-2



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COMPANY OVERVIEW

FACILITY DESIGN

RECENT PROJECTS

Pine Prairie

- Grass Roots 125MMSCFD Cryogenic Gas Plant
- Inlet Separation/Filtration
- 400 GPM Amine Unit
- Dehydration
- Fractionation
- Compression



Abbeyville - North Beach

- Phase II Facility Expansion
- Inlet Separation/Filtration
- Propane Refrigeration
- Dehydration
- Stabilizer
- Compression



Targa

- Grass Roots 200MMSCFD Cryogenic Gas Plant
- Inlet Separation/Filtration
- 450 GPM Amine Unit
- Dehydration
- Fractionation
- Refrigeration
- Compression
- RTO with cold vent and LP Flare Storage





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Termoyopal

- 40MMSCFD Cryogenic Facility in Yopal, Colombia
- Cryogenic Skids
- Dehydration
- Condensate Stabilization
- Compression
- LPG Storage and Truck Loading
- Modularized Pipe Racks



Tres Hemanos

- 60MMSCFD Compressor Station with CO2 Treatment
- 7 Compressors
- 2 JT Skids
- Dewpoint Plant
- Modularized Pipe Racks



Tenawa Haven Gas Plant Facility

- Grass Roots 1BSCFD Cryogenic Gas Plant
- Cryogenic Skids
- Dehydration
- Fractionation
- Waste Heat Recovery Units
- Compression



FIELD SERVICES

RECENT PROJECTS

- CenterPoint – Compressor Station as-built (250 Sites)
- Koch Pipeline – various site as-builts (pump stations, etc.- 150 sites)