



**PARTNERING
FOR INNOVATIVE
ENGINEERING &
CONSTRUCTION
SOLUTIONS**

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MISSION

To provide

innovative & reliable engineering and construction solutions through advanced technical expertise and exceptional project management.

We emphasize

the highest standards of quality, safety and environmental protection, with a special focus on the unique demands of industrial plants and procurement processes.



VISION

To be

the preferred engineering consultancy partner in Saudi Arabia and the MENA region, recognized for delivering projects on time and within budget.

We commit

to utilizing best practices & innovative technologies, particularly in the fields of industrial plant design and efficient procurement strategies.



VALUES

Integrity

Conducting our business with honesty, transparency, and compliance with applicable standards, ensuring ethical procurement and plant operations.

Excellence

Striving for excellence, continuously improving our knowledge, skills, and services, particularly in industrial plant engineering and procurement.

Collaboration

Believing in teamwork and collaborating with clients and partners to achieve optimal results in all aspects of our engineering & procurement services.

Innovation

Embracing new ideas and digital technologies to enhance efficiency and sustainability in engineering and procurement.

Safety

Prioritizing the safety of people and the environment in all our projects, with a specific focus on the unique challenges of industrial plants.





SERVICES

Our services extend to a wide array of clients throughout Saudi Arabia, spanning crucial sectors pivotal to the nation's economic and industrial progress. We possess the expertise and offer comprehensive services across various industries, such as oil and gas, petrochemicals, manufacturing, power and energy, water and wastewater treatment, construction and infrastructure, among others.

Our Domains of Expertise:

Mechanical Engineering

Design and analysis of mechanical systems, HVAC, piping and structural frameworks.

Electrical Engineering

Power systems, lighting design, electrical safety and efficiency optimizations.

Civil Engineering

Infrastructure, site development, structural integrity assessments and construction management.

Process Control

System optimization, control strategies, automation and advanced process control.

Instrumentation

Measurement and control instruments design, specification and implementation for accurate process control.

Pre-Feasibility Studies

We conduct techno-economic feasibility studies and prepare feasibility reports & recommendations for new plant projects. Our studies cover process design, economic evaluation, environmental impact, safety, operability and sustainability. We develop preliminary concepts, flowsheets, material and energy balances, plot plans, P&IDs, & 3D models to determine the optimal conceptual design basis to support our customers to establish the level of investment & project's maturation that define its feasibility.

Basic Engineering Design (FEED)

We offer comprehensive insights into the viability of projects within the oil, gas, petrochemical and mining sectors. We merge techno-economic evaluation, environmental and social impact assessments, market and demand analysis, regulatory reviews, risk analysis and operational feasibility into a cohesive study. This approach ensures that our clients receive detailed, actionable insights that cover every critical aspect of project planning and development, from sustainability and market potential to regulatory compliance and risk mitigation. Our goal is to equip decision-makers with the information they need to proceed with confidence, ensuring that every project is both viable and strategically sound from the outset.

Detailed Engineering Design

We understand that Detail Engineering Design is the essential bridge between the Basic Engineering Design and construction phase of a project in order to convert the ideas into reality. Detail Engineering includes the extraction of all the essential information from all the basic engineering drawings & calculations to provide the exact drawings in detail for all production, fabrication and erection items & in turn the details of entire project along with the precise bill of quantities & specifications for each of the equipment that needed, including all engineering deliverables needed for procurement, construction, pre-commissioning, commissioning and handing over of the plant.



Risk Assessment

Our risk assessment protocols include Hazard Identification (HAZID), safety reviews, quantitative risk assessments (LOPA), Hazard and Operability Analysis (HAZOP), safety case development and Safety Instrumented System (SIS) designs. These assessments are crucial in identifying potential risks early in the project lifecycle, allowing for the implementation of mitigation strategies to ensure the safety and reliability of plant operations.

Project Management

Our project management services are tailored to manage the complexities of engineering projects from inception to completion. We offer full lifecycle project management, encompassing project planning, scheduling, cost control, procurement, contract management, construction management and project controls. Our approach ensures that projects delivered on time, within budget and to the highest quality standards, with a strong focus on safety & compliance.

Procurement Services

Our procurement services are tailored to meet the unique needs of industrial plant projects. We specialize in sourcing high-quality materials & equipment, ensuring they meet project specifications and standards. Our procurement team works closely with suppliers to negotiate the best prices and terms, ensuring cost-effectiveness and timely delivery.

Construction Services

We offer comprehensive construction services for industrial plants, covering all stages from groundwork to final commissioning. Our team ensures that construction is carried out efficiently, safely, and in compliance with all regulatory standards. We focus on minimizing downtime and ensuring that the construction phase aligns seamlessly with the overall project timeline.

PROJECTS

Expert

in Designing & commissioning HV/MV/LV Substations, Production facilities (power plants), Industrial facilities (Refinery, Mines, Aluminium etc), Renewables, Energy management systems, SCADA.

World wide presence

in all Continents, variety of knowledge, experience with all known industry brands, flexibility, short leading time, problem solving attitude.





Concept Selection Study & FEED for WAEP Iseni Gas Processing Facility & Pipelines

2017 - Dangote Industries Ltd., Nigeria

Facilities:

- 20" x 50 km Pipeline
- Wellhead manifold station
- Slug Catcher
- Phase separator
- Gas Dehydration and Liquid Extraction Units (using Twister technology)
- Condensate Stabilization Unit
- Gas Turbine Export Gas Compression
- Fuel Gas System
- Nitrogen Generation System
- Fire Fighting system
- Instrument air System
- Produced Water System
- Power Generation
- Relief & Blowdown System
- SCADA system

System Capacity:

- Raw Feed Gas : 300 MMSCFD
- Export Gas : 282 MMSCFD
- Stabilized Condensate : 18,000 Bbl / day

Scope of Services:

Concept Selection Study for selecting optimum process technology for gas processing and liquid extraction including economic and technical comparison between multiple technologies, Front End Engineering Design (FEED) including preparation of PFDs with HMB, P&IDs, Equipment Data sheets, Specifications, Layout drawings, etc.



FEED Package for Flare Gas Recovery System

2015 - Oman Oil Refineries & Petroleum Industries Company SAOC through Precision Engineering & Consultancy

Scope of Services:

The project involves installation of a Flare Gas Recovery System (FGRS) for achieving dual benefits of energy conservation and emissions abatement by recovering, instead of flaring, process vent gases.

The basic process employed in the FGRS is collection of flare gases from liquid seal drum, compression of the gases and physical separation. Gas separation is performed by liquid ring compressors and separation of recovered vapor phase from a mixed liquid is accomplished in a horizontal separator vessel.

Scope of work included the following activities:

Review of Basic engineering works and development of Front End Engineering Design (FEED) document for the flare gas recovery system.

Prepare the Engineering, Procurement and Construction (EPC) scope of work.

Complete FEED work to an extent as required for proper performance of the plant and project facilities including full details about Engineering, Procurement and Constructability aspects so as to minimize subsequent ambiguities during implementation of EPC work.



LPG / NGL Plant-II at Adhi for Pakistan Petroleum Ltd.

2004 - 2006 Ranhill (Malaysia)
DDFC Group Consortium (RDC)

Facilities:

Wellhead Production and Test Header
Heat Exchanger Train
Deethanizer Overhead Condenser & Reboiler
NGL / LPG Splitter
Drain System - Fuel Gas Scrubber - Chilled Water System

Capacity:

Gas : 25 MMSCFD
LPG : 25 Tons / day

Scope of Services:

Basic Design including:

- Preparation of Specification and Data Sheets for Equipment including Compressors, Pumps, Columns, Separators, Reboilers etc.
- Preparation of Material Specifications & Data Sheets.
- Development of Piping Specifications.

Survey & Soil Investigation Works at Site.

As-Built of Plant-I for Tie-ins.

Equipment Layout, Design of Piping Works and Fire Fighting System.

Design of Electrical, Instrumentation & Control Systems.

Design of Civil & Structural Works.

Procurement Assistance including:

- Review of Vendor Data and Drawings and other information.
- Assess suitability of offered Equipment / Materials for use on project.
- Technical Evaluation of Vendor Bids and Preparation of Evaluation Report.

Participation in HAZOP Study

Design of Locally Fabricated Skid / Equipment.



Design / Vetting Services, Piping Stress Analysis of Tie-ins & HAZAN / HAZOP Study

2003 - Pakistan Petroleum Ltd. (PPL)

Scope of Services:

Development of Plot Plan (Overhead Compressor Area) showing details of existing Overhead Compressor Skid and Skid of Additional Compressor to be installed.

Design Vetting of Isometric Drawings prepared by PPL for Tie-in of Additional Compressor with Existing System.

Carryout static and dynamic piping stress analysis of following tie-in points for additional overhead compressor using latest softwares ascertain mechanical integrity and safety under operating conditions and incorporate modifications, if required, to ensure the system is dynamically balance and stress free.

- 2" Suction line for new overhead compressor.
- 2" discharge line for new overhead compressor.
- 2" tie-in line to warm flare line.
- 1" tie-in lines to Blow Case & Slop Vessel.
- Pipe Supports under discharge, suction, warn flare and blow case lines.

Development of Piping Plan & Isometrics for the new compressor incorporating recommendations of the above Stress Analysis.

Review of material requirement prepared by PPL in light of modifications suggested and issue supplementary material list, accordingly.

Carryout HAZAN / HAZOP Study of the new compressor and tie-ins.



EPRF-II Residue Up-Gradation Project

2016 - 2020

ENAR Petroleum Refining Facility
(EPRF)

Scope of Services:

ENAR Petroleum Refining Facility (EPRF) is operating Refining Facility located at Mangopir, Karachi. Recently, EPRF made a revamp in its existing refining facility by adding Vacuum Distillation Unit (VDU), Fired Heaters, Air Coolers, Thermal Cracker Unit (TCU), Pre-Heat Train and allied process equipment, utilities, storage, loading & decanting facilities and Tie-in connections & hookups with their existing facility.

Major Deliverables include project and construction supervision services:

Process Flow Diagrams

Piping and Instrument Diagrams (P&IDs)

- General, Vessels / Column, Heat Exchangers / Air Cooler & Pumps

Line Sizing

Data Sheet & Engineering Drawings Development

- Vessels, Columns, Heat Exchanger, Air Cooler, Package Equipment & Furnace

Utility Summary

Safety Valve Summary / Flare Load List

Plot Plan

Piping General Arrangement & First Material Take Off

Electrical and Control & Instrumentation (C&I) Engineering

Civil & Structural Works

- General Arrangement Drawings, Design Calculations, Basis for Cost Estimate & BOQ / MTO

Cost Estimation

Detailed engineering, project management & construction supervision including the following:

Preparation of Detailed Engineering Documents.

Preparation of ITB Documents for engagement of Construction Contractors

Bid evaluations including Technical & Financial recommendations, and contract negotiations with Construction Contractors.

Project Management and Site Supervision during Construction, Commissioning & Start up including.



Ma'aden Aluminium Smelter Project Management, Testing and commissioning

2012 - 2013 Ras Al-Khair, KSA

Project Management, Testing and commissioning of the system relay protection. 3x 380kV transmission, 3x1,2 GW transformers and 20 x 230kV feeders.

Overview:

Scope of Bechtel work is: Two potlines (360 pots each using AP37 technology); Cathode sealing, lining/delining, and maintenance shops; Alumina silos and transfer system; Port and material handling/support facilities; Green anode facility; Baking furnaces and fume treatment centre; Baked anode and assembly storage; Rodding shop and recycling facilities; Casting facilities.

Ma'aden's \$10.8 billion joint venture with Alcoa will be the largest and most efficient vertically integrated aluminium complex in the world. It will use Saudi Arabia's bauxite resources to profitably produce aluminium for domestic and international markets as well as to facilitate the development of domestic downstream industries in the Kingdom.





Complete design, supply & commissioning of new SCADA control center

2017 - 2018 Ras Al-Khair, KSA

One large plant (380/230 kV), nine medium voltage plants (34.5 kV, 1.8 kV and 4.16 kV) with several remote areas, including control (without control) with two more 34,5 kV plant.

Overview:

Complete design, supply and commissioning of new SCADA control center for Aluminum Smelter in Ma'aden Aluminum. The system includes one large plant (380/230 kV), nine medium voltage plants (34.5 kV, 1.8 kV and 4.16 kV) with several remote areas, including control (without control) with two more 34,5 kV plant.

The CONCEPT SCADA Database of the PROZA NET system has about 14000 data distributed over 16 communications computers connected to two main computers.





Project Management, Commissioning 380kV & 35 kV Substations, SAS integration kV

2013 - 2016 Yasref Refinery, Yanbu KSA

Commissioning of protection system at 380 and 34,5 kV voltage level. System consists 5 substations in total.

Overview:

YASREF (Yanbu Aramco Sinopec Refining Company) is JV refinery company, owned by Saudi Aramco and Sinopec with full capacity of 400 000 barrels of crude oil per day in order to produce high quality motor fuels and products. Production started in December 2014.

GENE completed parametrization, testing and commissioning activities for protection system on 380 and 34,5 kV voltage level.

System supply is provided from 380kV substation 10J owned by Marafiq. Substation with 400kV switchgear in breaker and the half configuration manufactured by Siemens. Power is transmitted to trough two parallel 500kV underground cables up to 380/34,5kV Yasref substation SS01. Substation SS01 consists 380kV double bus bar GIS switchgear and six transformers 380/34,5kV with site performances of 141 MVA each, all manufactured by Alstom. Downstream 34,5kV substations SS02, SS03 and SS04 are supplied from SS01 with two transformers in parallel operation per each. 34,5kV substations consist 42kV double bus bar GIS switchgears manufactured by Schneider electric.





COLLABORATION

At AdvancedEnCon

we pride ourselves on our robust network of strategic partners, each a specialist in their respective fields. Collaborating closely with leaders in electrical design, smart cities, water and waste management, construction, 3D Scanning, and Building Information Modeling (BIM), we are committed to delivering innovative solutions and unparalleled expertise.

Our partners'

diverse skills & insights enable us to tackle complex projects with confidence, ensuring that we stay at the forefront of technological advancements and sustainable practices in engineering & construction.



HydroTech Environmental

ENGINEERING AND GEOLOGY, DPC

Hydrotech Environmental Engineering & Geology, DPC, is a turnkey fully integrated civil, water & environmental consulting and engineering firm. Hydrotech has been a trusted partner, providing an integrated mix of engineering, sustainability & environmental consulting services, to public and private sector clients throughout the world (USA, Bahrain, KSE, Oman, Qatar, Saudi Arabia, Iraq, Jordan, Lebanon, UAE, Syria and West Africa).

Projects

ABU DHABI

Waste Management Strategy
Feasibility Study
Translocation of Vulnerable
Wildlife

BAHRAIN

Construction Management

DUBAI

Engineering Evaluations

IRAQ

Infrastructure Design
Environmental Audit
& Consulting

JORDAN

Hydrologic Analysis
Water Resources Design

LEBANON

Landfill Treatment
Irrigation Rehabilitation
Wastewater Treatment
Road Construction
Environmental Impact Assessment
Environmental Audit
Heritage Site Conservation

KINGDOM OF SAUDI ARABIA

Waste Management Strategy

OMAN

Beach Restoration

QATAR

Waste Management-
Strategy
Design Support
Sustainability

SYRIA

Road Construction
Environmental Pollution-
Remediation

ZIMBABWE

Infrastructure Development

France

Beach Restoration





We provide clients in the Middle East, the US and India with a wide range of 3D modelling services. We offer custom 3D modelling to serve the AEC and MEPF industries with IT enabled solutions based on client demands in addition to IoT and Geospatial Services.

With our 3D Laser Scanning and BIM services for industries, we are able to accurately scan their facilities without interfering with business as usual. This can improve engineering precision & cut down on the expense of frequent site visits.

Our approach, which is industry-focused, concentrates on meticulously analyzing the point cloud, 360-degree panorama images and the existing drawings to capture every last detail in 3D space and produce a high-quality, precise and accurate 3D model & as-built that can be used for IT enable customized solutions as per clients' requirements.

Services

3D BIM and MEP Modeling

3D Laser Scanning

2D Drawing Conversion

As-Built Services

3D Visualization

Geo-BIM Integration

**3D Application Development
& Consulting**

**Integrated BIM for Asset
Management**



IntegratedCity Solutions guarantees to be a one stop shop for end-to-end IT and IoT solutions. Our services branches out to every element of IT and IoT. We cater to Hardware, Firmware and IoT Platform customizable and scalable at all levels. Drive technology excellence at and raise the value we deliver to the market.

Services

IT Advisory

- IT Organization Assessment
- IT Organization Transformation
- DevOps Adoption
- Cloud Adoption and Optimization
- Site Reliability Engineering

Data Intelligence

- AI&ML Solution Design (Data Science)
- AI&ML Implementation Strategy
- Computer Vision and Recognition
- Data-driven Decision Making

Excellence

- Expertise development (training & events)
- Knowledge Accumulation (knowledge & experience sharing)
- Assessment and evaluation
- Internal expertise consulting

Solution

- Product Discovery (vision & positioning)
- Solution Discovery (approach & roadmap)
- Technology Advisory
- Technical Assessment & Design
- Quality Assurance (Test Strategy)

Security

- Cyber Security Assessment
- Data Protection Strategy
- Secure SDLC Setup
- Mobile Security Assessment
- Social Engineering Protection

Experience Design

- Human Centered Research
- Design Strategy Definition
- Usability Assessment
- Product Experience Renovation

CERTIFICATIONS

As we are

working in an environment where confronting noise pollution, hazardous substances, fumes and heavy machinery, cause a profound effect of risk and regulations. By streamline processes, commitment to compliance and best practices we received the ISO certifications that also marked us as a credible company in the industry.





Certificate of Registration

This is to certify that

**ADVANCED DESIGNS COMPANY FOR
ENGINEERING CONSULTANCY**
OFFICE 303 BUILDING NO: 7075, OTHMAN BIN AFFAN ST, AL
MURAIKABAT DIST., DAMMAM, SAUDI ARABIA

has been independently assessed by QRO
and is compliant with the requirement of:

ISO 9001:2015

Quality Management System

For the following scope of activities:

DESIGN ENGINEERING CONSULTANCY, WHICH INCLUDES CONDUCTING FEASIBILITY AND CONCEPTUAL STUDIES, EXECUTING BASIC TO DETAILED ENGINEERING, MANAGING CHANGE, AND PERFORMING COMPREHENSIVE RISK ASSESSMENTS. END-TO-END PROJECT LIFECYCLE MANAGEMENT FROM INITIAL ANALYSIS AND DESIGN THROUGH TO CONSTRUCTION AND COMMISSIONING, ENSURING PROJECTS MEET SAFETY, ENVIRONMENTAL, AND QUALITY STANDARDS.

Date of Certification: 21st March 2024
1st Surveillance Audit Due: 20th March 2025

2nd Surveillance Audit Due: 20th March 2026
Certificate Expiry: 20th March 2027

Certificate Number: 305024032195Q



Chaman
Head of Certification

Validity of this certificate is subject to annual surveillance audits to be done successfully on or before 365 days from date of the audit.
(In case surveillance audit is not allowed to be conducted; this certificate shall be suspended / withdrawn).

The Validity of this certificate can be verified at www.grocert.org

This certificate of registration remains the property of QRO Certification LLP and shall be returned immediately upon request.

India Office : QRO Certification LLP

142, 1st Floor, Astar Enclave, Near Paschim Vihar West Metro Station, Delhi-110063, (INDIA)
Website : www.grocert.org, E-mail : info@grocert.org

Scope of activities:

Design Engineering Consultancy - Which includes conducting Feasibility and Conceptual Studies, Executing Basic to Detailed Engineering, Managing change and Performing Comprehensive Risk Assessments. End-to-End project lifecycle management from Initial Analysis and Design through to Construction and Commissioning, ensuring projects meet Safety, Environmental and Quality Standards.



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ISO 14001:2015

Environmental Management System

For the following scope of activities:

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Date of Certification: 21st March 2024
1st Surveillance Audit Due: 20th March 2025

2nd Surveillance Audit Due: 20th March 2026
Certificate Expiry: 20th March 2027

Certificate Number: 305024032197E



Signature
Head of Certification

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has been independently assessed by QRO
and is compliant with the requirement of:

ISO 45001:2018

Occupational Health and Safety Management System

For the following scope of activities:

DESIGN ENGINEERING CONSULTANCY, WHICH INCLUDES CONDUCTING FEASIBILITY AND CONCEPTUAL STUDIES, EXECUTING BASIC TO DETAILED ENGINEERING, MANAGING CHANGE, AND PERFORMING COMPREHENSIVE RISK ASSESSMENTS. END-TO-END PROJECT LIFECYCLE MANAGEMENT FROM INITIAL ANALYSIS AND DESIGN THROUGH TO CONSTRUCTION AND COMMISSIONING, ENSURING PROJECTS MEET SAFETY, ENVIRONMENTAL, AND QUALITY STANDARDS.

Date of Certification: 21st March 2024

2nd Surveillance Audit Due: 20th March 2026

1st Surveillance Audit Due: 20th March 2025

Certificate Expiry: 20th March 2027

Certificate Number: 305024032198HS



Chamanth
Head of Certification

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