You will benefit from our broad international project experience with flexibility and quality engineering. We conduct every project we engineer in an alliance, an extension to your company and pride ourselves in delivering to your expectations.

We PLAN what we DO
We DO what we PLAN
We MONITOR what we DO

Abalto are able to offer engineering service encompassing one or more of the following which can either be negotiated as packages or provided as demanded by your requirements.

- Preparation of initial design schemes
- Technical Specification
- Preparation of Feasibility with Concept Design
- Contract and site management
- Detailed Design and Engineering
- Build, Integration and Testing
- Site Commissioning
- Site Support

Each service is structured to be coordinated with the related phases of the process including development, design, construction, testing, and operations. The complete package of our services includes all of the necessary elements that are important to both the owner/operator and the EPC groups for successful project planning and execution.

Abalto offers turnkey packages to industry including Instrumentation and Control Systems, Mechanical and Electrical Design, Build, Supply, Installation, Commissioning, Start-up, Plant Optimisation and post project Maintenance and Support.
Saudi Kayan Phenolics

Delivery of MAC Project for a Phenolics Plant

Scope included the delivery of the DCS, Safety system, Instrumentation, Remote Instrument Buildings, Analyser houses, UPS system and Central control room equipment. Support site installation teams for installation, loop checking and commissioning.

Project Details

Deliver of Project Management for $15M MAC contract from initiation to closeout with full P&L responsibility. Sponsor assignment to assure maximum scope delivery without deferral to site phase and adhere to accelerated schedule with fixed delivery date.

Manage scope and quality to ensure deliverables including DCS and Safety Systems integrated into Remote Instrument Buildings and Control Room. Sole authority for every aspect of project and sole delegated authority towards Owner and EPC. Management of and communication with Owner, EPC and stakeholders. Authorise procurement and manage performance and delivery of five subcontracts valued $5M.

Manage performance and deliverables of Invensys as downstream partner with contract value $5M. Responsible for resource management including remote virtual and home office engineering teams. Ensure integration and inter-operability with 8 other projects executed in UK, Netherlands, Singapore and Korea.

Construct plans for and manage Risks, Issues, communications, Resources, Quality, Integration, Schedule, Costs following PMI processes for Project Management.

Project Photos
Harweel Phase 1 EDF

Harweel Early Development Facility for Petroleum Development in Oman

USD 100 Million project for PDO aimed at assessing the viability of miscible gas flooding and have early production. We were responsible to MAC from construction supervision through integration to successful commissioning and handover.

Project Details

Harweel Early Development Facility (EDF) project was a USD 100 Million project for Petroleum Development Oman aimed at assessing the viability of miscible gas flooding which would yield highest oil recovery from high pressure sour Oil & Gas reservoirs. The 4 reservoirs had 15 producing wells with flowing pressures from 260Bar to 700Bar and average H2S concentrations of 50,000ppm with 15% Co2. This challenging Enhanced Oil Recovery project demanded cutting edge technology to deliver using prototype compressors and state of the art control and safeguarding system due not only to the process parameters but the fact that the wells were located 80Km from the production station Birba hence the base of design was remote operations. The MAC scope dimension was USD 10 Million provided by Yokogawa System Centre Europe who invited Abalto to provide the system integration, design and commissioning of Foundation Fieldbus instruments, valves, wellhead hydraulic control panels, Fibre Optic Converters and repeaters.

The production station Birba under the project scope had new separation train, 3 new reciprocating compressors, flare package and utility Air and Nitrogen generation packages. The oil production capacity added was 20,000 barrels of oil per day and 1.8 million meter cubes of natural gas.

Abalto engineers had supervised construction and liaise with EPC to ensure quality completion which does not adversely introduce flaws that hinder commissioning. Following structured pre-commissioning procedure and extensive testing helped mitigate hidden flaws in hardware and software. We successfully integrated the MAC deliverables such as Yokogawa ProSafe IPS, Stardom FCS and FastTools to following third party system:

- Nuevo Pignone Compressors LP, MP and HP compressors
- Frames Wellhead Hydraulic Control Panels
- Honeywell TDC 3000
- Pepperl & Fuchs relay based shutdown system
- Prognost Condition Monitoring system
- Dymac VM600 vibration protection system
- Haimo Multiphase Flow Metering units
- Alan Bradley Utility UCP
- ABB Variable Speed drives
Abalto engineers have:

- Managed design deliverables and facilitated meetings between individual vendors on behalf of the client.
- Monitored actual project progress to ensure timely delivery through visits to suppliers that were incorporated in compliance to ITPs.
- Ensured compliant design completed in time and within allocated budget.
- Conduct with assistance form Shell Global Solution Fire and Gas Mapping study which outlines the numbers, type and locations of F&G devices.
- Carried out and implement IPF classification for the project facility and compressor packages.
- Review FAT procedure and manage Factory Acceptance Testing and witnessing with help from Mechanical, Safety and Material Engineers where applicable.
- Developed pre-commissioning procedures and provide input to vendor site check lists.
- Reviewed and Approve for Construction Cause & Effect diagrams, FLD, Cable schedules and JB layout design, Termination Details, Instrument selection and data sheets.
- Confirmed pre-commissioning tests are complete and relevant documents are signed.
- Safely brought online one well and monitored effects of 1st Oil to the pipeline and production facility.
- Commission remaining Wells, MPFMs, Manifolds, separators and pumps.
- Commission the Yokogawa Fieldbus Control System (FCS) which was the first Stardom based FCS in industry with an EPC company with no prior Foundation Fieldbus experience.
- Systems taken to site for commissioning, construction and installation supervised, Loop Checking and Calibration, Functional Tested and handed over.
- Solved Wide Area Fibre Optic SIL 3 classified network (MNET) design and configuration problems resolution for remote well locations working at 600 Bar pressure, 15% CO2 and 50,000ppm H2S.
- Solved process control problems resolution by modifying control strategies based upon commissioning experience and industry knowledge.
- Commissioned three high pressure reciprocating compressors with online condition monitoring system from Prognost.
- Integrated with existing Honeywell TDC3000 to Yokogawa FasTools, Stardom and ProSafe to form a single operator interface. Safety instruments were Hart and non-safety instruments Foundation Fieldbus.
Houdini MEG FEED

DCS and Safety Systems FEED for MEG Plant in Singapore


Project Details

During the Front End Engineering & Design (FEED) phase the assumptions and conclusions of the pre–FEED were checked and updated. The basis for the FEED was the Basic Engineering Design Data and met the following objectives:

- Review the scope of work, basis of design and other design input data to determine if there are changes in the assumptions and conclusions.
- Provide a system design with sufficient detail to move to the EPC phase of the project.
- Development of the project design specifications and technical details in accordance with the engineering requirements, standards and specifications.
- Support the project team in completion of the required phase gate review and deliverables to enable project sanction.
- Support the procurement process through RFQ preparation to determine industry market costs and schedules for equipment for Long Lead Items.
- Perform capital cost estimates for the project, adequate to meet project sanction requirements.
- Contribute to the Project Execution Plans for the implementation phase of the project, including an organization chart showing resources, engineering description, procurement, fabrication, installation, commissioning and hand–over activities.
- Contribute to the Master Project Schedule.
- Preparation of documents needed for the implementation phase of work; requirements for the design, fabrication, installation, commissioning and start–up of the facility.
Perdido Regional Host GOM

FEED for DCS and Safety System for Shell Offshore Platform


Project Details

Develop a full Functional Design Specification for an Offshore Greenfield Project. The specific scope of the FEED was to produce specifications to the Basis of Design for this new 3000m deep Regional Host Platform in the Gulf of Mexico. The specifications included the system sizing, Software and Hardware Typicals, Systems Architecture with DACA considerations, Interfacing specifications to third party vendor systems.

During the Front End Engineering & Design (FEED) phase the assumptions and conclusions of the pre–FEED were checked and updated. The basis for the FEED was the Basic Engineering Design Data and met the following objectives:

- Review the scope of work, basis of design and other design input data to determine if there are changes in the assumptions and conclusions.
- Provide a system design with sufficient detail to proceed to the EPC phase of the project.
- Development of the project design specifications and technical details in accordance with the engineering requirements, standards and specifications.
- Support the project team in completion of the required phase gate review and deliverables to enable project sanction.
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- Preparation of documents needed for the implementation phase of work; requirements for the design, fabrication, installation, commissioning and start–up of the facility.
- Operations Department Design Review.
Project Photos
QP Dukhan Flare & Separators

Dukhan field commissioning of Separators and Flare package  
Abalto were awarded the commissioning scope through the EPIC contractor Panorama Contracting & Engineering Services working for Qatar Petroleum contract number GTC 189/ED/03 entitled EPIC of an independent Flare for QJA–1 & 2 and Replacement Separators at Dukhan Fields.

Project Details

The contract scope was to replace the existing separators at both Khatia Main Degasing Station (KMDS) and Fahahil Main Degassing Station (FMDS) of Qatar Petroleum Dukhan Oil Filed in addition to the provision of new flare package at Khatia Main Pumping Station (KMPS) with all associated piping, instrumentation and commissioning. The change over from old to new separators was scheduled during planned shutdown where as the Flare package start-up was on live plant.

Abalto safely and successfully delivered commissioning procedures, conducted process commissioning and managed the instrumentation and logic update in three Oil & Gas facilities for Qatar Petroleum at Dukhan filed. We were able to have a problem free commissioning through following structured methodology, drawing on lessons learnt, identifying what could go wrong and preparing for mitigation of flaws. Other success factors were management of interfaces, managing risks to successful delivery, agreeing to the handover and acceptance criteria prior to commencement and rigours testing during pre-commissioning.

Project Photos
AGIP Kashaghan Pipeline

Project Details

Electrical & Instrumentation Project Engineering AGIP Kashaghan Pipeline Project
Project management of PMSC team located in Saipem’s SPa office in Milan to ensure Electrical and Control compliance with company specifications for SCADA, F&G, Safety, Telecoms and Electrical, Control & Instrumentation design activities.
Coordination of review of Electrical and Control generated documents, monitoring discipline teams, review schedules and monitor change control submissions.

Project Photos