Conserve

INSPIRE | INNOVATE | INTEGRATE

ISO 9001 : 2015

"We add value to your vision"

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WHO WE ARE

Conserve Solutions is founded by passionate professionals with the intention to make the world better place through our Engineering practices.

Established in 2016 in Qatar, Conserve have spread its wings with branch offices in India, UAE, Singapore, Canada and London with 300 plus passionate professionals. With the global presence Conserve serves the following industries

- Architecture Engineering & Construction
- Infrastructure Industries
- Oil and Gas
- Energy and Utilities

Through our commitment to quality, constant innovation and respect for the planet, we assure to exceed expectations by providing the best of the possible solutions to constantly meet the clients requirement in the most responsible way of approaching Engineering.

Through our expertise we have assisted Clients, Consultants and Contractors in solving many critical design/construction issues without affecting the project progress and budget. We commit to meet challenging goals by engaging skilled and passionate people, who believe there is always a better way & solution.

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Our Vision

- To be a global leader in providing Engineering Solutions for Architecture Engineering & Construction, Oil & Gas, Infrastructure and Energy & Utilities.
- To build satisfying career for our people and to be a company of people's choice.

Our Mission

- Our mission is to provide practically achievable, creative & cost-effective engineering solutions that meet our client requirements.

Our Commitment

We commit to

- Take responsibility on quality of our services
- Take responsibility on time delivery of our services
- Learn continuously and upgrade our skills
- Promise only what we can deliver
- Accomplish the project objective with minimum budget from client
- Maintain a positive and informative working relationship with all stakeholders in the project we are working

Our Values

Ethics

Honesty is our priority which will never be compromised.

Quality

We intent to deliver excellence in whatever we do. We strongly believe our reputation depends on what we deliver.

People

We aspire to be the employer of choice in our industry. We inspire our people by offering work with a purpose, challenging development opportunities and rewarding career.

Innovation

We believe in doing things differently. We listen, learn, and seek out the best ideas. We attract complacency and continually improve.

Our Inspiration

The People Who Are Crazy Enough To Think They Can Change The World Are The Ones Who Do.

- Steve Jobs
- Yes we are crazy enough.

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BUSINESS AREAS

On Time Delivery

We stick to the target dates committed with our clients and make sure every single aspect of the commitment given to our clients are met on target.

Overcome Bottlenecks

We identify and overcome bottlenecks at a very early stage of the project which makes the whole process fluent and ensure the work is done efficiently.

Detailed Analysis & Planning

We analyze and plan the project progress accordingly to make sure the project status remains healthy at any given time.

ADAPT

We adapt to the situation of the project and use our technical expertise to ensure smooth flow of the project.

Client Focus

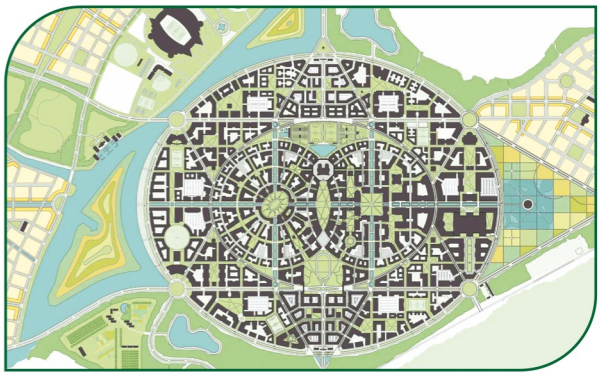
Our Client Focus approach towards projects enable us to provide the best possible solutions and ensure good relationships with our Clients.

Set Priorities

We set priorities accordingly to make sure the flow of project does not affect any stake holder in the project.

ARCHITECTURE, ENGINEERING & CONSTRUCTION

Conserve's AEC team covers all 360 degree services of construction industry. We serve all stakeholders in Construction Project from Client to Subcontractor in all the disciplines.



ARCHITECTURAL SERVICES

Architectural services include design, preparation of construction documents and construction administration. Our architectural services also provide a wide variety of services including feasibility studies, architectural programming and project management.

Conserve provides a one-stop comprehensive range catering from personal interior spaces to City Master-Planning. We widely cover all stages of Design & Engineering

SURVEYS AND INVESTIGATIONS

- Topographical survey and mapping
- Transport survey
- Collection of hydrological / hydrographic / geographical data
- Soil and material surveys
- Geotechnical investigation
- Analysis / interpretation of seismological data / models

DESIGN AND CONSTRUCTION ENGINEERING

- Architecture & Engineering Consulting
- Assessment of institutional requirements
- Integrated and Holistic, Building Design & Engineering Services
- Preliminary designs and cost estimates
- Engineering design, bill of quantities and cost estimates

STUDIES AND PLANNING

- Zonal Separation & functional flow Charts
- Space Management
- Sun-path Analysis
- Environmental impact assessment
- Socio-economic and feasibility
- Pre-investment feasibility
- Master Planning + Urban Design
- Interior design planning
- Landscape Architecture

- Technical specifications and tender documents
- Tender evaluation
- Contract negotiation
- Specialized construction equipment Design
- Renovation + Restoration
- Sustainability Consulting

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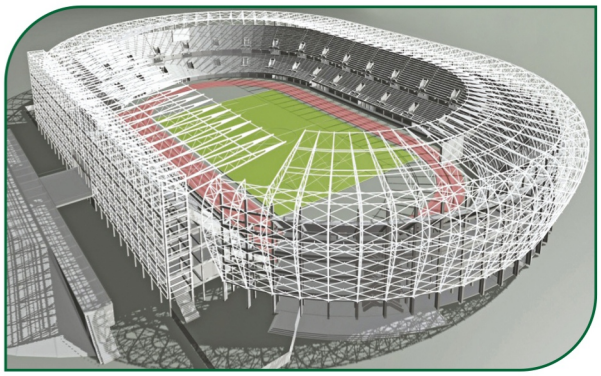
CIVIL / STRUCTURAL SERVICES

Our structural engineering expertise can support projects from concept to erection, project management, bidding / procurement support and coordinate services with other domains.

Designing of all buildings start with structure. Any building with very good architecture is complete only with elegant structural engineering. We at Conserve, provide structural engineering service for concrete, Precast and steel structures.



STEEL STRUCTURE

- Support Facility Design & Detailing such as Pipe Supports, Platforms, Monorails and Crane supporting Structures
- Duct, Cable Tray, ESP, Fan supporting structures
- Canopies, Substations, Louvers design & detailing
- Pre-Engineered Building Structures & Cold formed structures
- Dynamic analysis, Finite Element Analysis and Lifting Analysis
- Scaffolding & Formworks design & detailing
- Building information modelling (BIM) using Tekla / SDS2 software

CAST IN SITU REINFORCEMENT CEMENT CONCRETE (RCC) STRUCTURES

- Piles, Equipment/Machine Foundation, Deep / Shallow Foundations
- Slab on Grade, Columns, Beams, Slab, Walls, Staircase etc.,
- Retaining Wall, Storage Tank
- Building information modelling (BIM) using Revit & Civil 3D software's
- Frame, Roof, Gantry Girders, Corbel, Thrust block and other misc items design & detailing

PRECAST / PRESTRESSED CONCRETE STRUCTURES

- Design & detailing of Deck, Foundation, Hollow core slab
- Columns, Beams, Wall panels
- Staircase, Jacking pipe
- Manholes, Drum, Ramp
- Double-wall precast sandwich panels
- Box culverts, Miscellaneous items

TIMBER STRUCTURES

- Roof Trusses, beams
- Scaffolding & Formworks design & detailing
- Arches, frames, vaults, and shell
- Glulam load-bearing frames
- Lightweight joists and beams, Studs, sill plates
- LVL & CLT structures, Sheeting panels

ALUMINIUM STRUCTURES

- External façade structures, GFRC panels
- Roof and walls structures
- Containers, Platforms structures
- Stairways, gangways, and handrails
- Railing, Shelves & windows supporting structures

- Existing Structure Review, Failure Analysis, Structural Inspections and Structural Repair/Reinforcement Design
- Structural adequacy checks, Value engineering

We also offer,

- Structural Detailed engineering
  - Conceptual drawings, IFC drawings
  - Cast unit drawings, Single part & Assembly drawings
  - Fabrication Shop drawings, As-Built drawings
  - Rebar Detailing & Bar bending schedules
  - As-Built Engineering drawings

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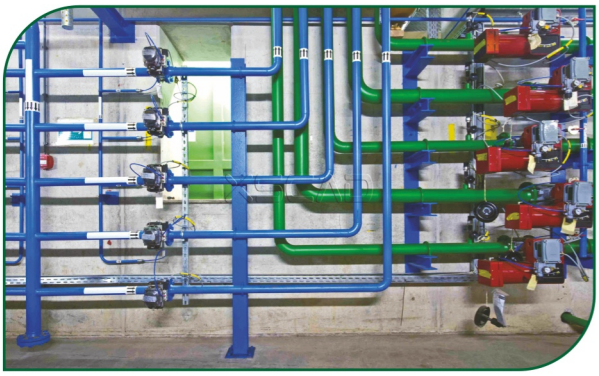
MEP ENGINEERING DESIGN SUPPORT SERVICES

MEP design is no more conventional, with changing regulations, requirement of Integrated Project Delivery, LEED, GSAS and other Green Building rating systems. Optimum MEP design is critical component of success in a project. We offer wide range of MEP Design support services to Owners, Consultants, Main Contractors and MEP Contractors.

Our MEP design support services ranging from project management, bidding / procurement support, coordination with other services, from concept to project delivery.



MECHANICAL ENGINEERING

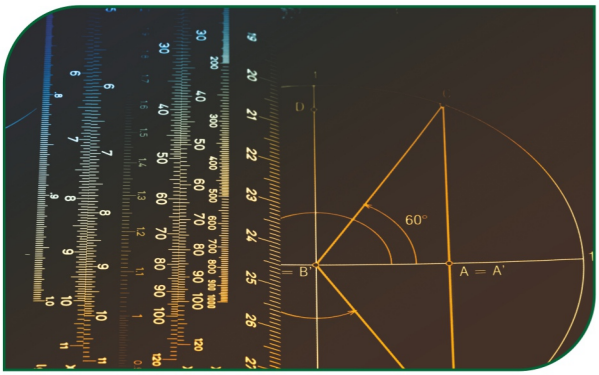
- HVAC
- Domestic Hot and Cold Water System
- Foul and Waste Water Drainage
- Fire Protection

ENGINEERING CALCULATIONS - MECHANICAL

- Heating / Cooling Load Calculations
- External Static Pressure (ESP) Calculations
- Pump Head Calculations
- Fire Hydraulic Calculations
- Psychometric Analysis
- Pressurization for Lobby and Staircase
- Ventilation Calculations
- Loading Units and Discharge Units calculation
- Selection of Equipment - AC equipment, Pumps, Fans etc.
- Sizing of Services (Piping and Ducting)
- System Volume Calculation - Chilled water, storm water, surface runoff etc.

ELECTRICAL ENGINEERING

- Small Power
- Lighting
- Emergency Lighting
- Earthing and Lighting protection
- Fire Alarm
- Security systems
  - CCTV
  - Access control
- BMS - Building Management System
- SMATV System



ENGINEERING CALCULATIONS - ELECTRICAL

- Voltage drop Calculation
- Short circuit calculation
- Lighting Luminance
- Lighting Rendering
- Fire Alarm Battery Hour Calculation
- Central Battery Capacity
- Power System Analysis and Calculation

OTHER SPECIAL SERVICES

- Value Engineering
- Method Statements for Mechanical and Electrical Installations
- Operation and Maintenance Manuals
- Tendering and Estimation support
- Engineering Reports
- Risk Analysis and its Mitigation Strategies in Design /Projects
- Testing and Commissioning Plans

Our Infrastructure Engineering Design Support Services includes

- **Mechanical Infrastructure** - Chilled Water, Potable Water, Foul Water, Irrigation, Storm Water, Surface Water and TSE
- **Electrical Infrastructure** - HV & EHV Network, MV Network, Ooredoo / Vodafone Network, DSSS, Street Lighting, Tunnel Lighting, Underpass / Bridge Lighting and Gantry Lighting

Our design support services are Client Centric, aiming to reduce overall Life Cycle Cost of the project.

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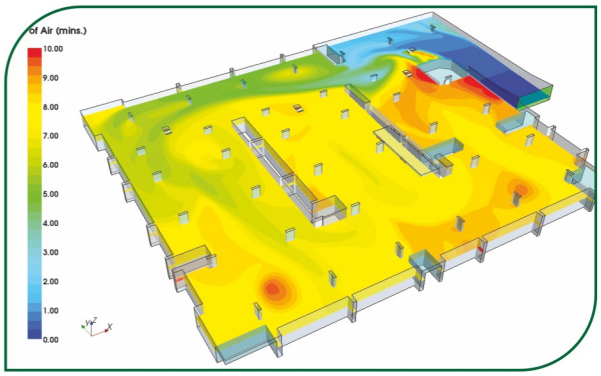
Simulation & Analysis Services



We adopt advanced numerical and finite element tools & concepts providing simulation and analysis services during design, procurement, installation and commissioning stages.

Why perform Simulation and Analysis?

- Using simulations is generally cheaper, environmental friendly, safer and sometimes more ethical than conducting real-world experiments.
- By simulation and analysis, we can fore see the problems and mitigate it with ease which might help us by saving a lot of energy and cost.
- Simulation and analysis can be done faster than real time there by saving a lot of time. The simulation and analysis can be done on the basis of if-then-else theories, thereby verifying the outputs for various conditions and ensuring safety in the project.

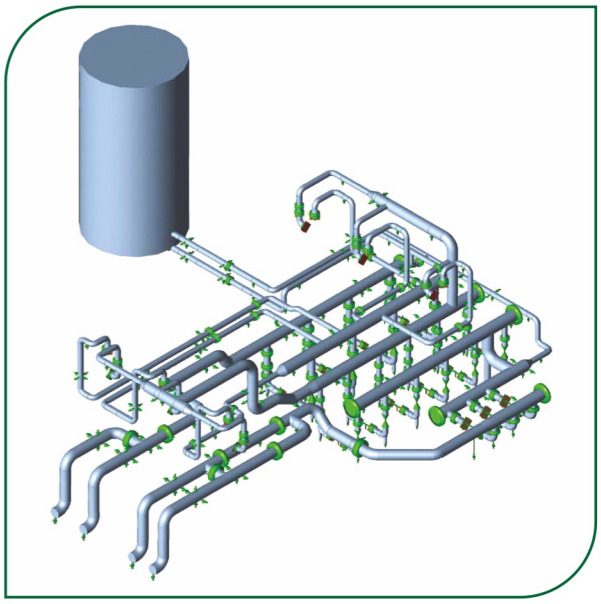
We offer specialized Engineering analysis & simulation services as below,

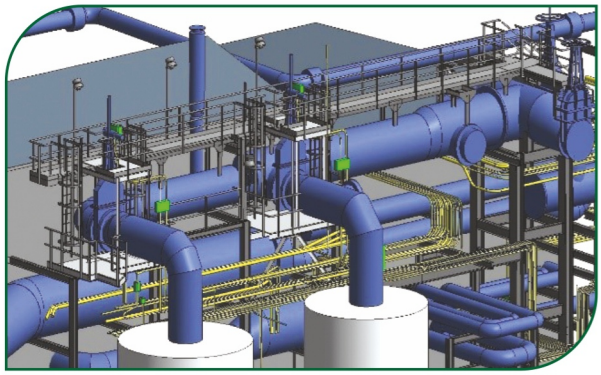
- Piping Flexibility Analysis
- CFD Simulation / Analysis
- Vibration Analysis
- Hydraulic Analysis
- Pump Head Calculations
- Surge analysis
- Structural Analysis
- Pressure Vessel Analysis
- Pulsation and Mechanical Analysis
- Seismic Analysis
- Design Verification of Infrastructure & Building Services

PIPING FLEXIBILITY ANALYSIS

Piping stress analysis is our speciality. Our primary focus is to provide piping engineering services. We utilize industry leading tools, technologies, and methodologies to complete our analysis.

- Static Analysis
  - Equivalent Static Analysis
  - Pressure Loading
  - Occasional Loading
  - Thermal Loading
- Dynamic Analysis
  - Modal Analysis
  - Harmonic Analysis
  - Vibration Analysis
  - Time - History Analysis
  - Water Hammer Analysis
- OFF-Shore Platform Analysis





STRUCTURAL ANALYSIS

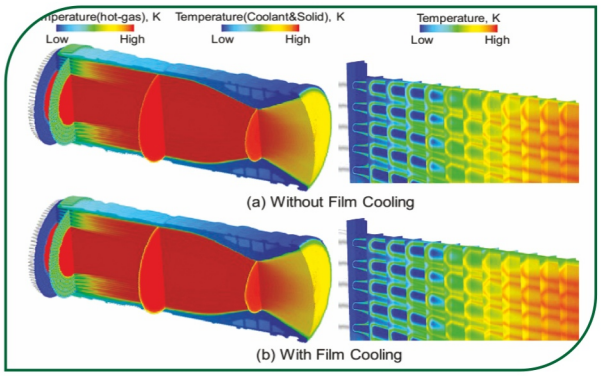
Structural Analysis Services Include

- Equivalent Static Analysis
- Dynamic Analysis
- In-Place & Transportation (Barge & Land) Analysis
- Lifting Analysis
- Vibration Analysis
- Finite element Analysis

COMPUTATIONAL FLUID DYNAMICS (CFD)

Computational Fluid Dynamics is a branch of fluid mechanics that uses numerical analysis and data structures to solve and analyse problems that involve fluid flows. Our services cover the following,

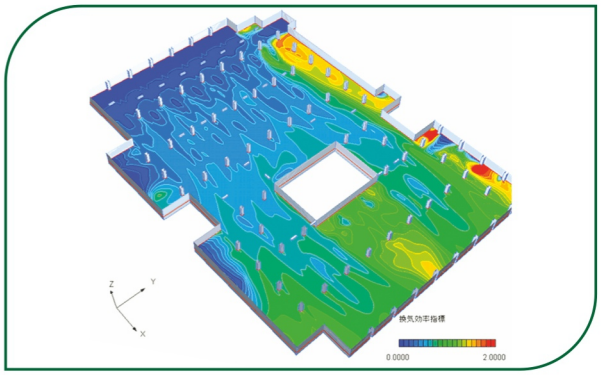
- Flow Analysis for Critical Equipment's
- Simulation of Boilers and Steam Generators
- Oil & Gas Piping
- Smoke Analysis
- Thermal Comfort Study in Buildings
- Fire Dynamic Simulation (FDS)
- Aerodynamic Analysis

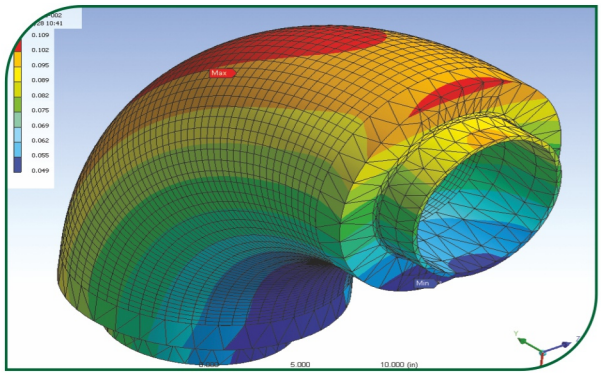


The principal areas of application are designs requiring an understanding of the air flow pattern, such as design of smoke control systems and air distribution in a heating, ventilation and air-conditioning system. Carrying out CFD analysis will ensure safety and comfort of the occupants/end users.

Applications of CFD analysis

- Thermal Analysis, Temperature, humidity and velocity simulations for human comfort.
- Transfer of heat through walls, roof and floor of the buildings.
- Simulation of Boilers and Steam Generators.
- Ventilation Analysis
  - Smoke simulations for Atriums and Tunnels.
  - Car Park Ventilation and Mining Ventilations.
- Flow Simulation and Analysis in Mixing Tanks, Heat Exchangers and Erosion Tubes.
- Fire Evacuation Modelling.
- Offshore Rig Wind and Wave Analysis (mainly in Oil and Gas Sector).
- CFD for oil and Gas Piping - Environmental Condition impact on Oil & Gas Process.





Piping Analysis

The objective of the piping stress analysis is to ensure structural integrity, operational integrity and optimal design of the system.

Applications of piping analysis

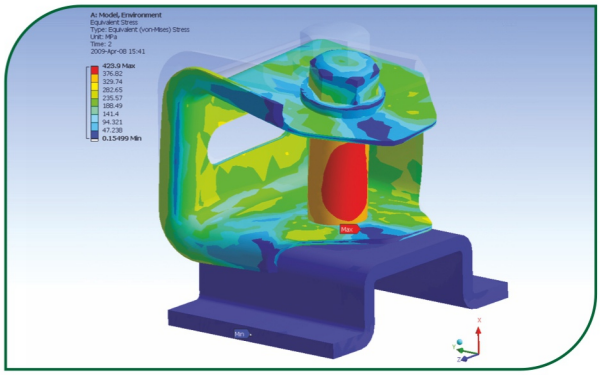
- Thermal, Stress, Expansion and Seismic Analysis
- Pulsation Analysis (mainly in Oil and Gas Sectors)
- Surge Analysis
- Flow Assurance Analysis (mainly in Oil and Gas Sectors)

Vibration Analysis

Vibration analysis is carried out to ensure the vibration from the mechanical equipment does not disturb the building. We provide solutions to design vibration isolation systems. There are various factors influencing the selection of vibration isolators such as the characteristics of the equipment to be isolated, operating environment, type of loading such as static loading and dynamic loading.

Vibration Isolation System Design Includes,

- Design of Vibration isolators for large industrial equipment and instruments.
- Design of Vibration isolators for equipment.



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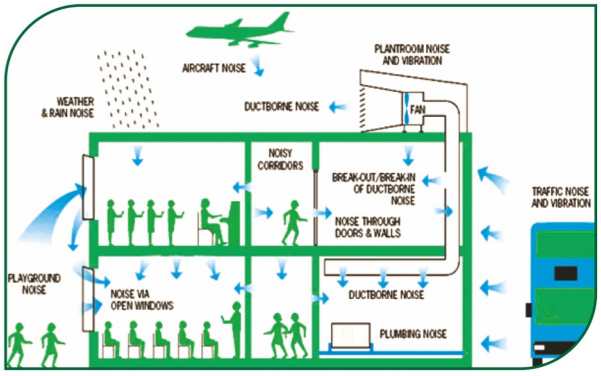
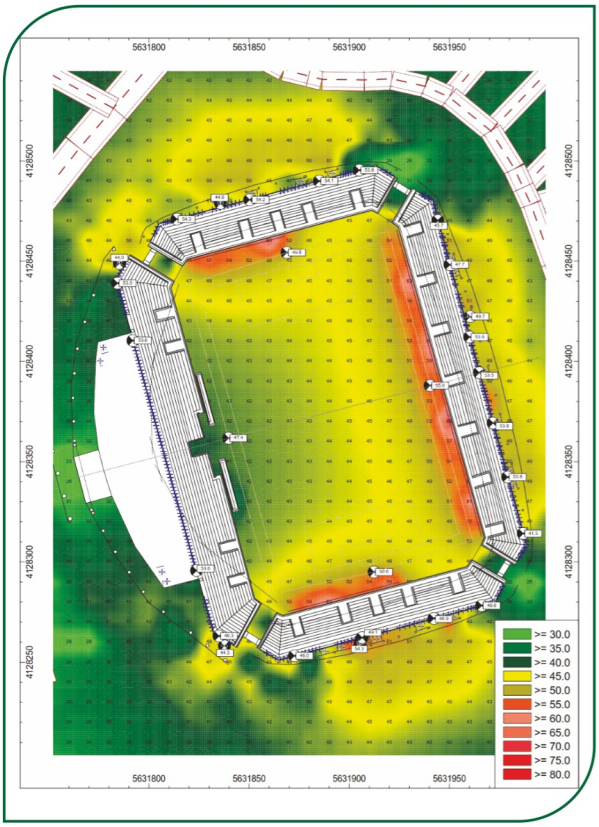
Acoustics Services

Our acoustics & noise control consultancy services covers following industries/applications.

- Buildings (Room Acoustics, Construction & Environmental Noise)
- Industries
- Oil & Gas Plants

We have delivered sustainable, cost effective acoustical engineering solutions in accordance with ISO / ASTM and relevant standards on below listed applications :



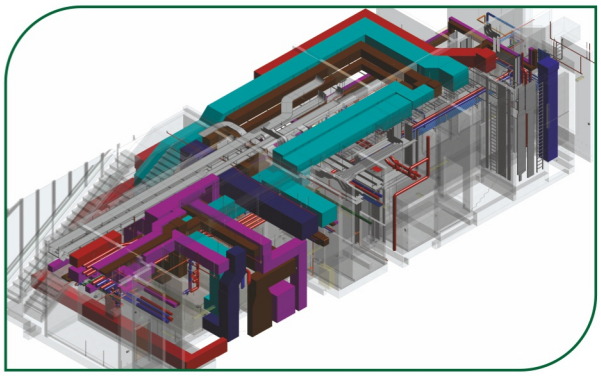


- Air-borne & Impact Sound Insulation simulation & testing
- Room Background Noise (LAeq/NC/NR) assessment & testing
- Reverberation Time (RT60) simulation & testing
- Speech Transmission Index (STI) simulation & testing
- Construction (pre-, during/mock-up, and post) & Environmental Noise & Vibration Monitoring as per local regulations
- Occupational Noise Survey in Industries & Plants
- Operational Noise Monitoring for preventive / predictive maintenance
- Noise Mapping
- Acoustic criteria/credit assessment for LEED, BREEAM, GSAS and other sustainability certification schemes
- GSAS, BREEAM, LEED related acoustic assessment and surveys

Tools for Acoustic Services

DIRAC	Control Rome Calculator
ODEON	Porous Absorber Calculator
Duct Noise Calculator	Speech Re-inforcement Calculator
Acoustic Tools	RION Sound Level Meter

BIM MODELING



Building Information Modeling (BIM) is a digital representation of physical and functional characteristics of a facility. BIM is a shared knowledge resource for information about a facility forming a reliable basis for decisions during its life-cycle; defined as existing from earliest conception to demolition.

Conserve is leading the Construction Sector to leverage the power of Building Information Modeling (BIM) to optimize project resources. One of the biggest benefits in BIM is 3D Construction Coordination.

Conserve is a one stop solution for Architecture, Structure and MEP Modeling. Conserve adapts Computational BIM (Dynamo) wherever necessary to automate the works wherever possible to speed up the work progress and deliver the works accordingly. Conserve brings in their competence in finding interference between Architecture, Structure and MEP services and eliminating them before construction begins. By fixing problems in the computer instead of in the field, cost and time-consuming change orders are avoided. In addition, our team focusing on using 3D coordination process not just to correct errors, but to think through constructability and plan delivery.

At Conserve, we also use data-rich 3D models to aid team (owner, architect, engineer, builder and trade contractors) decision making, streamline scheduling and trades utilization, validate existing conditions, identify safety concerns and increase material cost accuracy.

We can produce REVIT Models up to LOD 500.

Our BIM Modeling services Includes

Architectural	Preparation of Architectural 3D Models
Structural	Preparation of Structural 3D Models
MEP	Preparation of MEP 3D Models
BIM Coordination	Coordination among Architecture, Structure & all trades in MEP
Construction Documents	Issued for Construction Drawings, Shop Drawings and As-Built Drawings
Fabrication and Spool Drawings	Engineering Drawings for Fabrication of components/materials before installation
Builders Work	Builder's Working Drawings
Family Creation	Parametric Modeling for Architecture, Structure & MEP components
CAD to Revit	Preparation of 3D models from the 2D CAD files
Point cloud to 3D	Preparation of As-built model from scanned files to Revit
Construction Simulation	Simulation of Construction planning and progress in timeline (4D)
Bills of Materials	Executing Quantities of materials with cost (5D)
Sustainability	Implementation of Green Building factors in the model (6D)
Asset Management	Implementation of COBIE for facility management (7D)
Dynamo, Python & C-Sharp	Computation and Automation in BIM

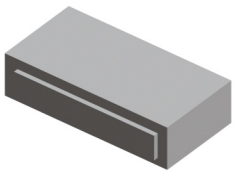
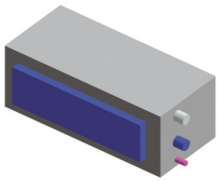
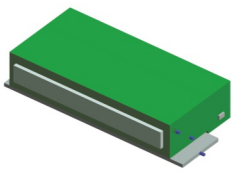
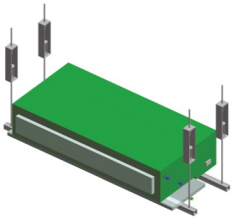
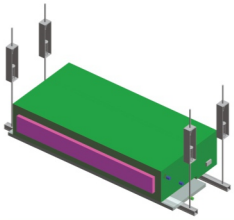
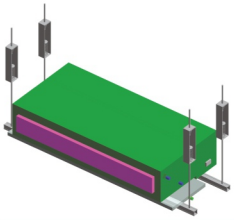
Our expert services will enable

- Improved coordination with production of coordinated, clash free and virtual 3D model
- By reducing coordination issues in early stage, we can reduce installation time and cost
- Our 3D model reduces the requirement of site-based variations and modifications and hence reduces wasted man hours
- We help our client with more accurate data management and extraction with the help of our BIM services.
- Our BIM model provides functionality for the automated generation of Bill of Materials / Quantity take off
- Our 3D models can be integrated with Primavera or similar software for estimation, Manufacturing and Scheduling technology, support the manufacturing and fabrication process.
- Our 3D models can improve the efficiency of on-site service installation and also support the off-site manufacturing / modularization process
- Our BIM models help improve the accuracy, quality and detail of construction documentation.

Level of Detailing

Level of development defines the content and reliability of BIM elements at different stages or milestones. With “content” we mean geometric information, structured data and linked documentation.

LOD Description

LOD 100	LOD 200	LOD 300	LOD 350	LOD 400	LOD 500
					
Concept Design	**Schematic Design**	**Detailed Design**	**Construction Documentation**	**Fabrication & Assembly**	**As-Built**
The building 3D model is developed to represent the information on basic level. Thereby, only conceptual model creation is possible in this stage. Parameters like area, height, volume, location and orientation are defined.	General model where elements are modeled with approximate quantities, size, shape, location and orientation. We can also attach non-geometric information to the model elements.	Accurate modeling and shop drawings where elements are defined with specific assemblies, precise quantity, size, shape, location and orientation. Here too we can attach non-geometric information to the model elements.	It includes model detail and element that represent how building elements interface with various systems and other building elements with graphics and written definitions.	Model elements are modeled as specific assemblies, with complete fabrication, assembly, and detailing information in addition to precise quantity, size, shape, location and orientation. On-geometric information to the model elements can also be attached.	Model elements are modeled as constructed assemblies for Maintenance and operations. Non-graphic information may also be attached to the Model Elements.

GREEN BUILDING SERVICES

Conserve offers consultancy and facilitation for various Green Building and Sustainability rating systems such as

- LEED (Leadership in Energy and Environmental Design)
- GSAS (Global Sustainability Assessment System)
- BREEAM (Building Research Establishment's Environmental Assessment Method)
- CEEQUAL (Civil Engineering Environmental Quality)
- Estidama Pearl Rating System
- IGBC (Indian Green Building Council)

LEED being most internationally accepted and recognized rating system. We are putting forward our services in LEED Rating System. Our team can very well offer services for other Green Building & Sustainability rating systems.

COMMISSIONING SERVICES FOR GREEN BUILDINGS

In Construction industry, Commissioning is verifying that the building systems and the subsystems (HVAC, plumbing, electrical, fire/life safety, building envelopes, interior systems, utility plants, sustainable systems, lighting, wastewater, controls, building security etc.) are planned, designed, installed, tested and operated to achieve the owner's project requirements.

Very often Commissioning is misunderstood for Performance testing, testing and balancing. They are part of commissioning process and does not complete the entire commissioning process.

Commissioning is often seen as added cost. In reality Commissioning add value to project, A properly commissioned building provides the following benefits:

- Optimized energy efficiency
- Reduced operating costs
- Improved IAQ and occupant comfort
- Reduced change orders - Increased life of existing equipment
- Reduced warranty issues
- Fewer comfort problems
- Documented maintenance requirements
- Improved staff training
- Reduced contractor callbacks

Modern building systems have become more complex and system integration becomes necessary for life-safety and proper indoor environmental quality. On most building projects the responsibility for the installation and functionality of equipment is divided amongst many contractors and sub-contractors. Each one is focused solely on their portion of the project and only conduct testing on the equipment for which they are directly responsible. We as the Commissioning Agent/Authority spend the essential time to test the equipment in an integrated manner to assess total system operations.

Our Commissioning Management is as per ASHRAE Standard 202-2013 -- Commissioning Process for Buildings and Systems

Commissioning is required in many Green Building rating systems like LEED, GSAS, Estidama Pearl etc. However any modern building can be benefited from the advantages of commissioning.

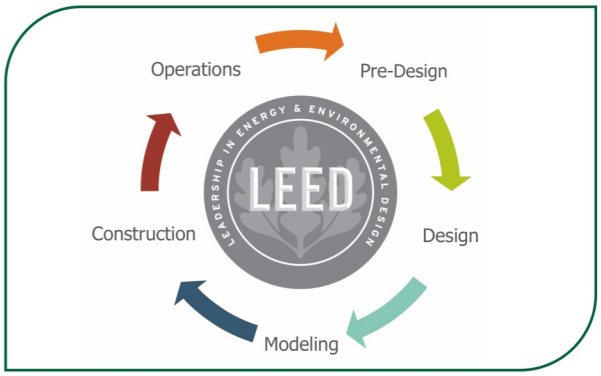
- Early stage LEED feasibility study and recommendations
- Prepare and post the RFP for the Commissioning Authority
- Project-specific eco-charrette facilitation including the integrated design process
- Develop baseline LEED Scorecard
- GBCI project registration
- Develop Responsibility matrix
- Provide LEED-Kickoff team direction, support, resources, and sample documents
- Create LEED team Action List with monthly updates
- GBCI LEED-Online project setup and ongoing site management including assigning roles and responsibilities to team members

LEED CONSULTANCY & FACILITATION

FOR CONSULTANTS

Design consultants have significant responsibility in a Green Building Project. The challenging part is to achieve the target certification in cost effective way. Our services include right from initiating Green Building charrette to preparation of design documentation. Our services to design consultants include,

- Demonstrate how to use LEED-Online to team members, the GBCI document repository site
- LEED Scorecard and project updates issued to team at appropriate intervals
- Review of architect's LEED Requirements in Construction Documents or guidance to architect to prepare
- Complete management of LEED certification submittal documentation. Specifically, the two-phase certification process for Design submittals followed by Construction submittals. Services entail the technical review and edits of team submittals, plus back-check, for compliance prior to presenting documentation to the GBCI for the certification review process
- Prepare and submit CIRs (Credit Interpretation Requests) if necessary



FOR CONTRACTORS

For many contractors, complying with LEED requirements (or GSAS or other Green Building rating system) remains challenging, critical and appears as bottle neck affecting the project cost, schedule and progress. For example we know cases where the progress has been affected badly because of the delay in submission and approval LEED Prerequisite SS Construction Pollution prevention. Contractor cannot mobilize the site activities unless Construction Pollution prevention plan is approved. Conserve can support contractor's right from bidding stage to handing over stage.

In bidding stage, it would be challenging for contractors to prepare technically strong proposal stating the competency in LEED Projects. We can support contractors in preparation of strong techno commercial proposal demonstrating competence in LEED/GSAS. We have number of LEED APs and GSAS CGPs who can contribute to the project.

Our CVs and Profiles can give a edge for the contractors with the other competitors. Once the contract is awarded, Conserve can take away the burden of LEED Documentation from the contractor's responsibility. In general our services to contractors include,

- Dedicating a LEED AP to represent the contractor in all meetings with consultant and client.
- Develop, Implement and Document the following LEED Prerequisite and credits
- SS Construction Pollution Prevention Plan
- MR Construction Waste Management Plan
- IE Construction Indoor Air Quality Management Plan
- Review material submittals specific to construction documentation like Recycled content, Regional Materials, and Low Emitting Materials etc.
- Reviewing and updating LEED Online submittals and reporting on a regular basis throughout the construction process.
- Soliciting, collecting and maintaining required documentation for the target credits to fully comply with LEED Design Review(s).
- Performing calculations, analyses, and preparing documentation demonstrating the achievement of the prerequisites and selected credits from the LEED Design stage review.
- Submitting the completed certification application through LEED Online.

- Strategic Environmental Assessment (SEA): SEAs integrates the environmental, socio-economic and sustainability features of the proposed project to ensure that they are considered and addressed properly.
- Environmental Management Plan (EMP): A plan prepared to outline the procedures for environmental monitoring and mitigation actions throughout the construction and operational phases of a project.

ENVIRONMENTAL ENGINEERING

Conserve offers Environmental Services. We aim to build capacity and support to our clients with a range of the following environmental services :

- Environmental Impact Assessment (EIA): The process of identification, examination and evaluation of the potential environmental impacts of a project covering all the stages.
- Construction Environmental Management Plan (CEMP): A critical environmental impact analysis and formulation of mitigation measures during the construction period of project.

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INFRASTRUCTURE

Conserve has a capability to carry-out small to large scale projects in most of the infrastructure industry sectors.

ROAD & HIGHWAYS

- Socio-techno-economic feasibility and traffic studies
- Prioritization and Master plans, Layouts & Detailed drawings
- Road Design, Strengthening, Widening and Expansion
- Urban and rural roads, Expressways and Elevated Roads
- Flyovers and interchange systems
- Road bridges, Manholes, Maintenance, and bridge rehabilitation
- Utility Services like Water Supply, Fire, irrigation, Drainage, Telecommunication & Street Lighting systems
- Electrical & Landscaping

TRAFFIC & TRANSPORTATION ENGINEERING

Widely associated with other disciplines

- Pavement engineering
- Bicycle transportation engineering
- Highway engineering
- Transportation planning
- Urban planning
- Human factors engineering

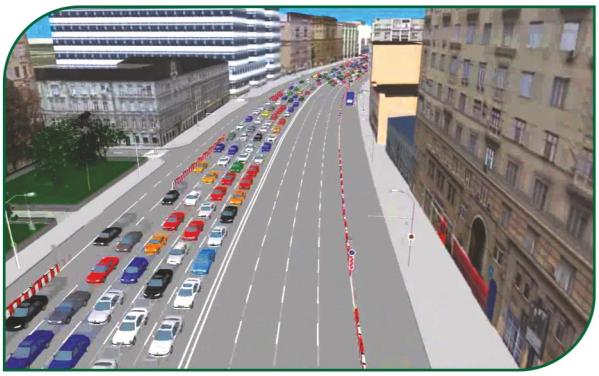
With close focus on safe and efficient traffic flow, road geometry, sidewalks and crosswalks, cycling infrastructure, traffic signs, road surface markings and traffic lights .

Below are the sub-headings to classify the area of expertise.

INTELLIGENT TRANSPORTATION SYSTEM

- Wireless communications & Bluetooth detection
- Computational technologies including Floating car data/floating cellular data
- Sensing technologies with Inductive loop detection & Video vehicle detection
- Information fusion from multiple traffic sensing modalities
- Intelligent transportation applications with Emergency vehicle notification systems

- Automatic road enforcement
- Variable speed limits
- Dynamic traffic light sequence
- Collision avoidance systems improved by On-Road Cooperative systems
- Identifying Smart Transportation Capabilities as a New Business Model
- Signal optimization using LinSig
- Signal simulation and EPROM configuration.
- ITS design proposals incorporating Automated ticketing & Variable messaging signage (VMS) for public parking.



CITY / AREA DEVELOPMENT PLAN

- Understanding the vision / objectives & creating a blueprint for future transportation network.
- Planning a strategic travel demand model to cater to growing future needs.
- Four-stage-modeling using CUBE/VISUM software.
- Junction designing perfected using SIDRA software.
- Assessment of economic cost / viability and phasing of project.

TRAFFIC SIMULATION USING PARAMICS / VISSIM

- Simulations for real time visual display of traffic on ground.
- Preparing detailed traffic report predicting the maximum capacity of car parks.
- Queuing Studies at different hours of the day.
- Network Recalibration for free flowing traffic.

TRAFFIC SURVEY AND ANALYSIS

- Conducting traffic studies.
- 7 Day Volume Count Survey.
- Origin Destination Studies.
- Turning Movement Analysis.
- Traffic revenue calculation and report generation.

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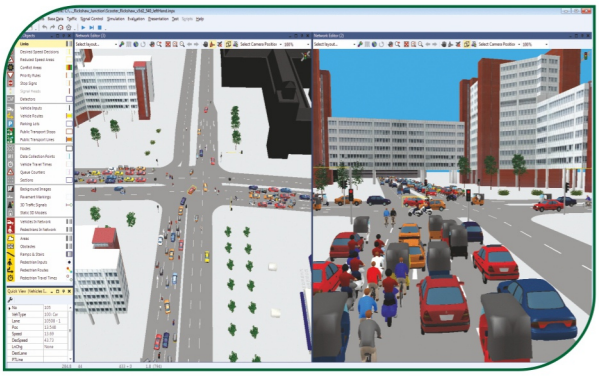
ROAD SAFETY AUDIT & ROAD SIGNAGE

- Conducting Audits for existing road networks at various stages of completion.
- Safety-Checks for road networks for consistency, to avoid unexpected road safety issues.
- Detailed Feasibility / Research / Analysis at following stages.
- Feasibility stage
- Preliminary Design stage
- Detailed Design stage
- Construction stage,
- Post-Construction stage



TRAFFIC IMPACT ASSESSMENT

- Study of Master plan of Multi-family residential apartments, duplexes, hotels and commercial areas.
- Traffic Impact Assessment done and forecasting of trip demand on the new/widened roads.
- VISUM Macro-Simulation software will be used for above.
- Checking of the junction capacity and level of services (LOS) during peak periods using SIDRA software.
- Report on final proposed internal road network and parking areas.

RAILWAYS & TUNNELS

- Track work
- Underpass, Railway Crossing Structures, Railway Station Building, Railway Plants and other Infrastructure
- Railway Bridges
- Dedicated Freight Corridor
- Engineering geology and rock mechanics
- Steel sheet pile walls
- Evaluation and tackling water influx
- Driven Piles

BRIDGES & FLYOVERS

- Cable Stayed Bridges
- Extra-dosed Bridges
- Segmental - Precast (Box) / in-situ (Box)
- Cantilever construction / Balanced Cantilever
- Suspension Bridges
- Steel Bridges-Through Type / Composite Bridge Under slung
- Arch Bridges
- Interchanges / Flyovers /T-Beam - in-situ / Precast T-Beam
- Rail Cum Road Bridges
- Under pass-Box Pushing / Tunnelling
- Incremental Launching / Nose Launching

MARINE PORTS & HARBOURS

- Modular Construction Solutions
- Shipyard Platforms, Wharves
- Offshore Marine decks & Barges
- Dry dock & floating Dock
- Pier Structure
- Coastal protection Structures, Jetties, Breakwater etc.,

AIRWAYS

- Planning & design of runways, taxiways and aprons, service roads and emergency access roads
- Design of Fuel Depots, Hydrant Systems, Approach lights, Access ramps etc.,
- Forecourt structures to passenger terminal building

DOCUMENTATION PACKAGE

- Feasibility study
- Building Survey
- Construction Documents
- Regulatory Approvals / Code Complaints
- Design Review Comments / Revisions
- Construction Administration
- Requests for Information (RFI)
- Pay Application Review/Approval
- Plan and Cost Review Services
- Consulting / Expert Witness Services

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ENERGY & UTILITIES

From concept to commercialization, we offer/cover/serve clients a full suite of Engineering and start-up services that set industry standards for quality design and superior functionality

POWER PLANTS

Sector we serve,

- Fossil
- Hydropower
- Solar Power
- Renewable
- Nuclear
- Transmission & Distribution

PROCESS PLANTS

Sectors we cover,

- Pulp & Paper
- Pharmaceutical
- Food & Beverages
- Steel manufacturing

Services we offer,

- FEED & Concept Studies
- Plant Engineering service
- Utility, Storage and distribution systems
- Steam and power generation
- Equipment & Instrument Specifications
- Process Control Description, Mass and heat balance
- Hydraulic Calculation, Transient Analysis
- PFD Generation, P&ID Generation

Services we offer,

- Captive Power Plants
- Utility Power plants
- Combined cycle power plants
- Substations
- Feeder lines
- Powerhouse
  - Plant engineering and detailing services
  - Sub-Critical & Super Critical Boiler Supporting Structures
  - Pressure vessels, heat exchangers, and valves
  - Gas turbines, steam turbines, compressors, and generators
  - Pipe, Duct, Cable Tray, ESP, Fan supporting structures
  - Wagon Tippler, TP, Conveyor, Crane Supporting Structures
  - Storage silos, Penstock, Godowns, Product warehouses and Logistic parks

WATER TREATMENT PLANT

Sectors we cover,

- Water Treatment
- Desalination
- Effluent treatment
- Water Reclamation
- Sludge Treatment

Services we offer,

- Waste water & sewage system
- Storm water and green infrastructure
- Pump houses
- Plant engineering

CHEMICAL PLANTS

Sectors we cover,

- Cryogenic systems
- Chemical production systems
- Plant utility systems
- Storage and distribution systems

Services we offer,

- FEED & Concept Studies
- Plant Engineering
- Detailed Engineering

MINING

Services we offer,

- Feasibility Study
- Material Handling
- Mineral Beneficiation
- Conveyor Structures
- Slurry Management Design
- Platforms, Skid, Bins, Hoppers, Chutes
- Slope stability analysis
- Underground panel layout and design
- Equipment selection
- Drill – blast design
- Cranes & Monorails, Crusher Structures
- Infrastructure Studies, Geotechnical analysis

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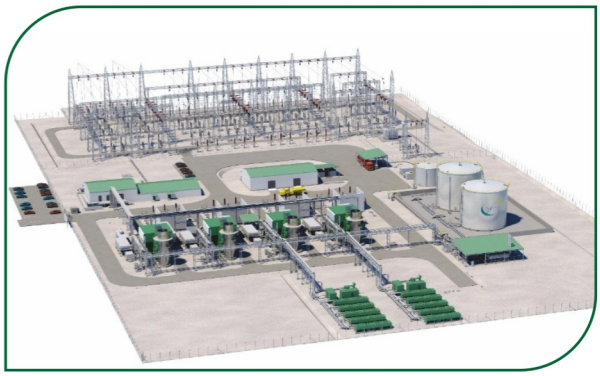
OIL & GAS

Our Oil & Gas engineering services offering FEED, DED, As-Built Service domains.



PROCESS ENGINEERING

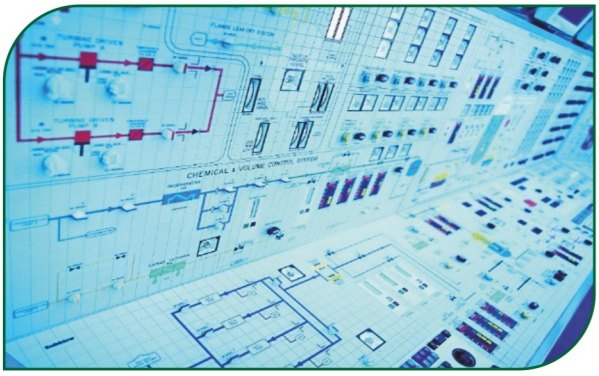
- Process Design Engineering
- Hydraulic Calculation
- Transient Analysis
- PFD Generation, P&ID Generation
- Hazop & Hazid Studies
- FEED & Concept Studies

PIPING ENGINEERING

- Piping Design & Detail Engineering Services
- Wall Thickness Calculation
- Material Selection
- Detailing Services
- Piping MTO Services
- GA Drawing Preparation
- Spool Drawing Preparation
- Isometric Generation
- Analysis Services

MECHANICAL ENGINEERING

- Equipment Design
- Layout Drawings
- Design & Detailing of Pressure Vessels, Storage Tanks & Valves
- 3 D Modeling for Heat Exchangers, Separators, Pumps, Compressors & Turbines
- Thermal and Fluid Flow Studies using FEA and CFD
- 3D BIM modelling services



INSTRUMENTATION & CONTROL ENGINEERING

- Control Panel Design
- Fabricator Technical Support
- PLC/DCS Control System Design and Programming
- P&ID Design Development
- Plant Walk Throughs P&ID Documentation

CIVIL / STRUCTURAL ENGINEERING

- Structural Steel & RCC Supporting Supports Analysis, Design & Detailing
- Detailed Connection Design & Detailing
- Cast Unit Drawings, Single Part & Assembly Drawings
- Dynamic, In place & Transportation (Barge & Land) and Lifting Analysis
- Fixed Platforms - Topsides, Jackets, MOPU,
- Floating Platforms - FPSO (Floating Production Storage and Offloading), FSRU (Floating Storage Regasification Unit), FPU (Floating Production Unit) , FSO (Floating Storage and Offloading)
- Retaining Structures, Equipment / Machine Foundation,
- Pipe Rack Structures & Skid Supporting Structures, Modular Construction Solutions

ELECTRICAL ENGINEERING

- Load List & Single Line Diagrams
- Loop & Hookup Drawings
- Electrical Layouts, Control Panel
- JB, Wiring Details
- Installation Drawings & Layouts
- Lighting Design Calculation

ACOUSTICS

Our acoustics & noise control consultancy services covers following industries/applications

- Industries
- Oil & Gas Plants
- Buildings (Room Acoustics, Construction & Environmental Noise)

We have delivered sustainable, cost effective acoustical engineering solutions in accordance with ISO/ASTM and relevant standards to above listed industries on below topics/applications

- Noise Mapping
- Noise level measurement
- Occupational Noise Survey in Industries & Plants
- Operational Noise Monitoring for Preventive / Predictive Maintenance

- Air-borne & Impact Sound Insulation simulation & testing
- Room Background Noise (LAeq / NC / NR) assessment & testing
- Reverberation Time (RT60) simulation & testing
- Speech Transmission Index (STI) simulation & testing for PAGA system

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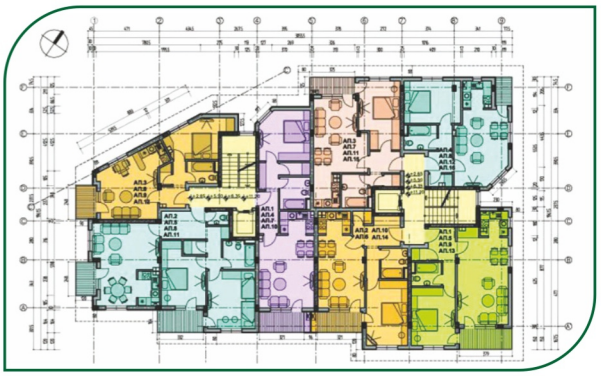
OTHER SPECIAL SERVICES

CAD CONVERSION SERVICES

Preparation of Architectural, Structural, Civil, Piping, Electrical, Instrumentation and MEP drawings from Concept to As-built and getting it approved is one of the major challenge of contractors. We have a team of highly qualified engineers and draftsmen to prepare CAD drawings as per the Clients requirement.

As we are a Design service provider for Consultants and Design & Build Contractors, we study and execute our drawings with foresight methodology and proper analysis. We support the clients to avoid uncertainties and ensure the overall good health of the project.

- Concept drawings
- Isometric drawings
- Issued for Construction drawings
- Schematic drawings
- Fabrication drawings
- As-Built Drawings
- Shop drawings
- Detailed Design drawings
- Coordination drawings
- PDF to CAD Conversion



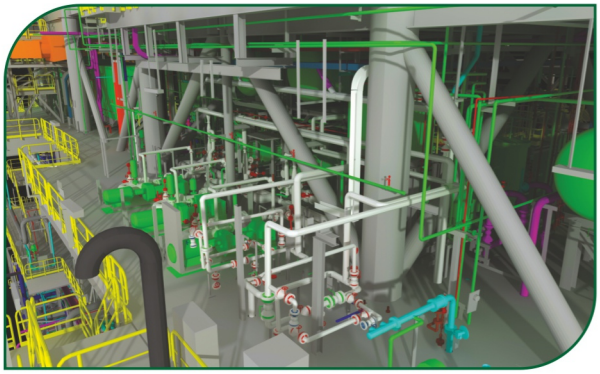
MEP
Plumbing, Drainage, Fire Fighting, HVAC, Small Power, Lighting Fire Alarm, Security, CCTV SMATV, ICT, Public Address Audio Visual, BMS, Builder's Work, Coordination.

INFRASTRUCTURE
Road Signs & Traffic Lights, Chilled Water, Potable Water, Foul Water, Irrigation, Storm Water, Surface Water TSE, HV & EHV Network, MV Network, Ooredoo Network, Street Lighting, Tunnel Lighting, Underpass Bridge Lighting, Gantry Lighting, Transportation, Road Marking & Signage Pavement, Road Safety, Traffic Signal and Bike / Cycle / Pedestrian Tracks, Pumping Stations.

MECHANICAL / PIPING
Piping, Equipment GA, General Arrangement Drawings, P&ID, PFD, Spoolgen, Isometric.

STRUCTURAL
Structural Drawings, Reinforcement Drawings, Standard Details, Cast Unit Drawings, Assembly Drawings, Single Part Drawings, General Arrangement Drawings, Connection Detailed Drawings.

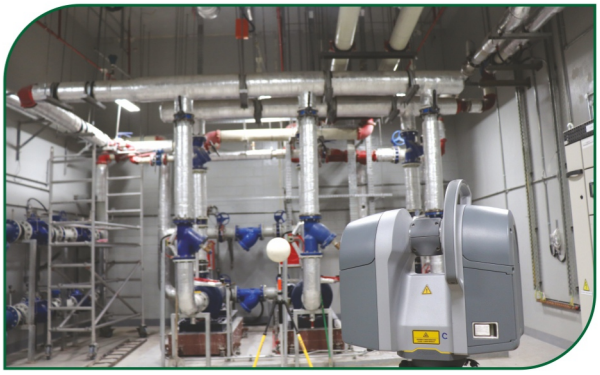
ARCHITECTURAL
Architecture, Sustainable Building Design Interior Design, Design Development Land Planning, Exterior Renderings 2D & 3D Renderings, Energy Analysis.



3D MODELLING SERVICES

- Mechanical Equipment Modeling
- Piping Modeling
- Civil / Structural Modeling
- E&I Modeling
- Telecommunication modelling
- Specs & Catalog Generation / Creation
- Admin services

LASER SCANNING SERVICES



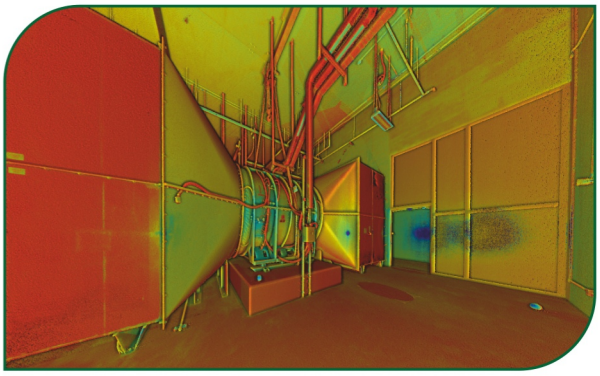
3D SCANNING

As-built engineering and documentation service deals with final documentation and updated drawings based on the as-built plant at the site. Taking a multidisciplinary approach, we at Conserve conduct discipline-specific site surveys (measurements, scanning, sketching), drawing and documentation markups, and updating of 3D models, drawings and documents.

In Conserve, we also provide road mapping services through 3D laser scanning. This road mapping technique can be used in Global Information System (GIS).

3D Laser scanning is a highly accurate and precise method invented to document the As-Built of a construction site with a lot of time saving in real time surveying. The 3D scanner captures the construction site with millions of points per second with a tolerance of ±5mm.

We at Conserve, do the scanning of the project site and convert it to any deliverable format desired by the client.



Sequence of work

- We can scan your project site and acquire the points data.
- Convert the captured data to Point Cloud/IGES/DXF.
- Deliver the format to client in the form of LOD 500 3D Revit Models and 2D CAD drawings.

We also offers,

- Drone survey
- Underground utility Survey (Ground Penetration Radar)
- Satellite Imaging
- Construction Monitoring & Reporting with LiDAR Technology

GIS Services

A geographic information system (GIS) helps to deals with analyze, manage, and display environmental data. Our GIS engineers are capable of doing GIS mapping services by collecting data from many different sources and in many different formats, including local, state, and federal datasets, aerial and satellite imagery, digital elevation models (DEMs), CAD drawings, KML & KMZ files, client files, and GPS data collection.

We are committed to stay up-to date with the current technologies and maintain state of the art software with Esri's ArcGIS software suite.

OUTSOURCING TECHNICAL EXPERTS & VIRTUAL EMPLOYEE SERVICES

Outsourcing Technical Experts and Virtual Employees Service

As the construction world goes though a paradigm shift towards more sustainable processes & technologies, the need to optimise existing technologies and procedures to adopt new advancements become the more paramount.

We are a professional outsourcing company providing a complete suite of Engineering & Green Building (LEEDS / GSAS) outsourcing solutions to meet the shifting needs of clients

We are having a range of flexible and scalable solutions that are designed to help our clients to maximize their resources and minimize their expenditure.

We deploy man power resources & technologies that result in cost savings, improved quality, and quicker project delivery to our clients around the globe.

We utilize flexible engagement models to best suit our clients' requirements.

One of the challenges in design and construction of MEP Projects is to get Engineers and Draftsmen with required skill, in required time with in the budget. At conserve we can provide MEP Draftsmen and Engineers with required skill in short duration. By using our outsourced draftsmen and Engineers, project costs and risks can be reduced and can be executed within the planned schedule.

OUTSOURCING TECHNICAL EXPERTS

Deputation of technical experts to clients office / site as per requirement.

Virtual Employees Service

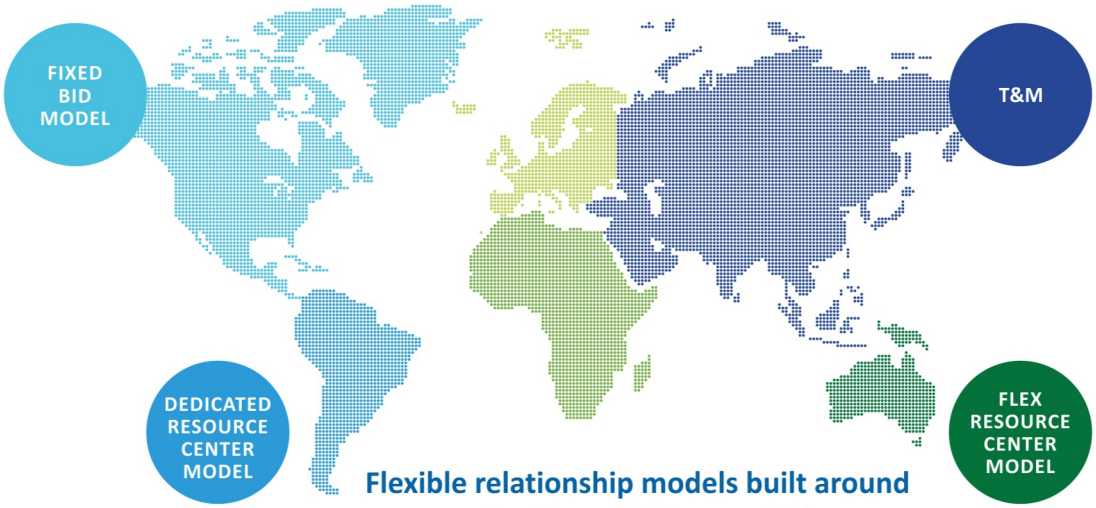
Working through virtual office, with no cost on Infrastructure / Hardware / Software / Employee benefits the clients budget.

We can provide skilled

- Sustainability Engineers
- Mechanical Engineers
- Electrical Engineers
- BIM Modelers
- Architects
- Quantity Surveyors

- Project Coordinators
- Draftsman
- Piping Engineers
- Structural Engineers
- Environment Engineers

Specialized Engagement



Flexible relationship models built around our client's needs & expectations

CODES & STANDARDS COMPLIANCE

AASHTO	ADA	AISC	ANSI	API
ASCE	ASHGHAL	ASHRAE	ASME	ASPE
ASTM	AWS	BIS	BPVC	BS
BSI	CIBSE	DEWA	DNV	EN13480
HCM	HEI	IBC / OBC	IEC	IEEE
IESNA	IFC	IFGC	IMC	IPC
KAHRAMAA	MOI REGULATIONS	ISHRAE	ISO-14692	NEUFERT
NEC	NEMA	NFPA	NRC	OOREDOO
PIP	QCDD	QCS	QHDM	QTM
SMACNA	TEMA	TIME SAVER	UBS	UPC

OUR TOOLS

AFT	ANSYS CFX	ANSYS FLUENT	ARC GIS	AUTO PIPE
ASHRAE PSYCHROMETRIC	AUTOCAD	AUTODESK FABRICATION	AUTODESK INVENTOR	AUTOPLANT
BENTLEY AUTOPIPE	BENTLEY PLUS	BLUEBEAM	CADPIPE	CADWORX
CAESAR II	CBE THERMAL COMFORT	CEEQUAL	CIVIL 3D	CLIMATE CONSULTANT
COMOS	CUBE	DELTA V DCS	DIALUX	DOORS
E3D	ECOSIM	ECOTECT	ELITE	EPA NET
E-QUEST	ETABS	ETAP	FDS	FEMAP
FURSE	GT STRUDL	HOURLY ANALYSIS PROGRAM	HYDRO CAD	INFOWORKS
INTOOLS	LINSIG	MICROSTATION	NASTRAN	NAVIS WORKS
OPEN CASCADE	OPENPLANT	PARAMICS	PDMS	PDS
PIPE FLOW EXPERT	PIPE NET	PIPE STRESS (PEPS)	PLANT3D	PROCAD
PV ELITE	RELUX	REVIT	SACS	SAP 2000
SDS2	SIDRA	SOLIDWORKS	SP3D	SPI
STAAD Pro	TEKLA	VISSIM	VUSIM	WATER CAD

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