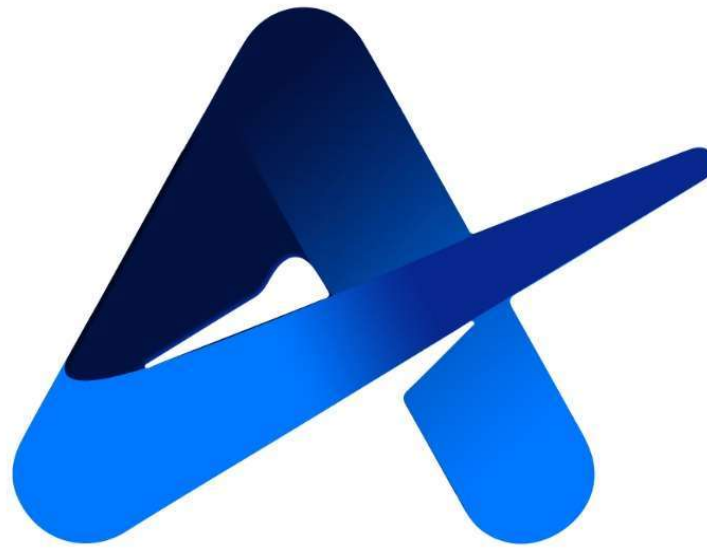


ASTRA ENGINEERING CONSULTANTS PVT LTD.



Coimbatore | Bangalore
India

Prequalification Document



ASTRA

Connecting with Quality!



WE SPECIALIZE IN

SMEP Engineering & BIM



Buildings and Infrastructure - Engineering Consulting Services

ABOUT US

ASTRA ENGINEERING CONSULTANTS

Astra Engineering Consultants is a world class Engineering Consultancy firm operating from Coimbatore and Bangalore with 75+ staffs. The Core team, originally a part of QDC India Consulting Limited formed in December 2010 was diversified and a separate entity of Astra Engineering Consultants was incorporated in view of expanding our horizon.

Astra core team formed by senior professionals with hands-on experience associated with landmark projects in the Middle East and Europe brings a combined project experience of over 250 years which enables smooth execution of even the complex and critical aspects of the projects.

Astra Engineering Consultants along with its supporting venture partners provides a complete range of Civil, Structural and MEP engineering consultancy services that bring buildings to life. Our engineering consultancy services seamlessly combine knowledge, expertise, and experience with an unflinching focus on quality. We cater to the project requirements of both organizations as well as Individual Clients in India, Middle East and Europe regions.

Astra has a strategic alliance with Qatar Design Consortium, Doha, Qatar based 45-year-old Grade A Consulting and Project Management firm with 500+ staff.

We firmly believe that 'Clients are our assets, their vision is our service'

Our Philosophy

Our guiding philosophy revolves around 'Commitment and Perfection to Satisfaction'. We lay high emphasis in implementing Quality in every step of our internal processes and in meeting the external commitments in diligent and committed manner ensuring that we always strive in exceeding the customer expectations.

We believe in 'Inclusive' growth wherein, our staff members are recognized, appreciated, and are left with a feeling of 'Self growth' which bring a 'Sense of Ownership' in meeting the client requirements.

SERVICES

Clients are our assets, their vision is our service

Team Astra has the leadership and capacity to successfully carry out sizeable project ranges and types. Astra as a diverse team of MEP and Structural engineers which allows us to effectively handle different services and customize our scope for individual projects to suite end user needs.

Astra has excellent experience in all phases of designing a project including Structural, Mechanical, Electrical, ELV, PHE and Firefighting. Team Astra is also specialized in providing Sustainable Design, Peer reviews and Value engineering.

Contact us to discuss your upcoming commercial development project. We work hard to provide quality service during each stage of project coordination and implementation.

Structure

We provide structural engineering services with a basic approach to quality, client's & architect's requirements, time schedule, economy and innovation. We are well-versed in all types of concrete and steel buildings and structures including pile foundations & water retaining structures. We are fully familiar with Indian, ACI, BS and Euro codes and specifications.

- RCC/Steel/Structural Design & Engineering Designs
- Construction Documents
- Revit Architecture / BIM
- Prototypes
- Substation and Tall structures
- Infrastructure design like Tanks, Roads, Culverts & Bridges
- Large Span structures like convention halls/auditoriums
- Industrial and Power Plant structures
- Silos, Bunkers, Chimneys, Conveyor Galleries & support
- Repairs and Rehabilitation Consultancy
- Third Party Checks and Peer Review Services



SERVICES (continued)

MEP Services

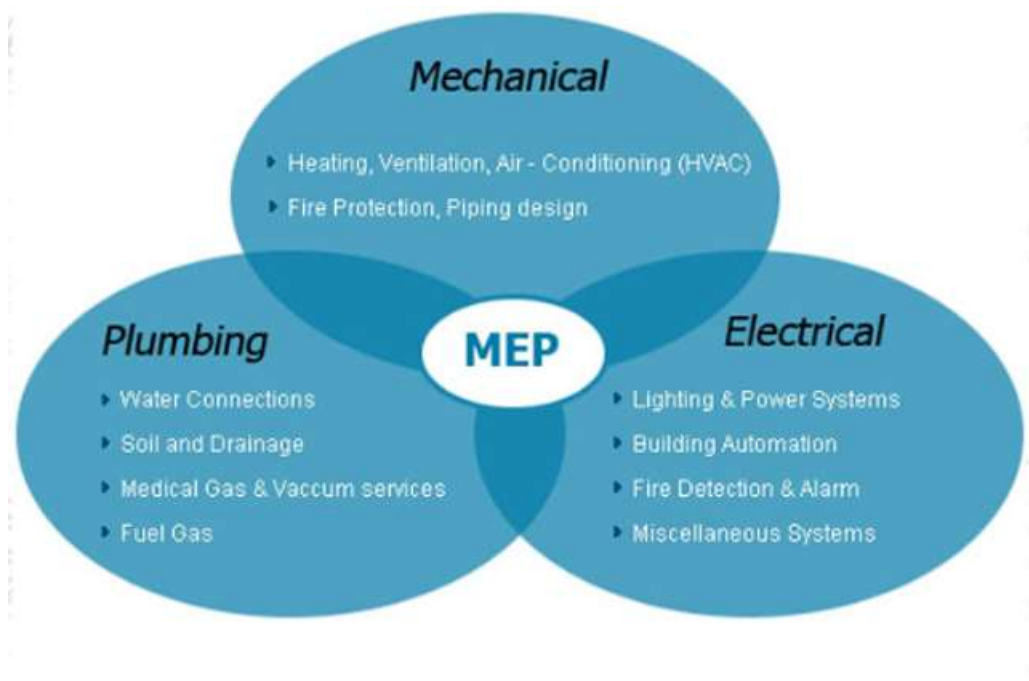
The ultimate strength of team Astra lies with its MEP division.

Astras core team is formed with key MEP staffs, who has worked with complex and iconic projects globally. The MEP team has the combination of highly experienced senior staffs + young and dynamic engineers which enables Astra to produce timely and quality deliverables involving complex projects.

Mechanical, Electrical & ELV, PHE and Firefighting system designs are the lifelines for all buildings. That's why the MEP design is much important and must be developed with foremost accuracy and perfection.

Our MEP engineering design validation services provide sustainable solutions for projects across industries such as Airports, Universities, High rise buildings, Substations, Hospitals, Commercials & Industrial buildings, and others.

Our familiarity and flexibility to follow with global codes and standards and the ability to follow Client/industry specific Drafting standards ensures open solutions for the customers and ensures effective deliveries.



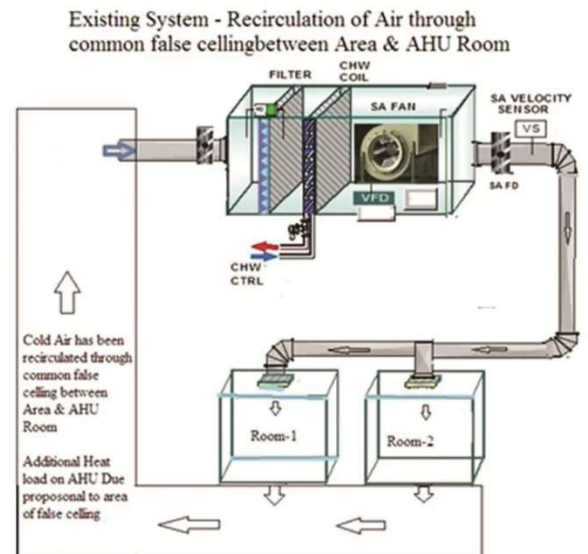
Astra uses licensed high ended Computer aided design and drafting tools, for making calculations, to develop high precision MEP designs and for equipment selections.

SERVICES (continued)

Mechanical Systems (HVAC and Chilled Water)

Astra does HVAC Consultancy & Design as per ASHRAE and other local standards / guidelines to deliver project. Our core HVAC Engineers are experienced to diverse projects and are certified professionals with more than 20 years of experience.

Astra Mechanical team is technically competent to design variety of project where conditions differ across regions and standards. Our design solutions are optimum as per client requirement in all aspects such as economical, eco-friendly, Energy efficient, low operating cost and easy to maintain. As we are working on many international projects, we are well versed with international standards and guidelines along with local codes and standards. HVAC system plays a significant role as it maintains permissible indoor temperature, Relative Humidity, and Indoor Air Quality (IAQ), thus enhancing level of human comfort.



Astra produces design of Heating, Ventilation, and Air Conditioning system to suit the requirement of client, end users covering all types of buildings – Office / IT sectors, Data centres, luxury hotels, Hospitals, Malls, cinemas, stadiums / EHV substations, educational academies, Royal Palaces and Residential and Office high rise Towers also District Cooling Plants.

HVAC Services

Centralized air conditioning system

- Water cooled chiller system
- Air cooled chiller system
- Variable refrigerant flow system



De-centralized Air conditioning system

- Direct expansion systems
- Cooling load calculation with the use of internationally accepted software called HAP
- Emergency ventilation systems and smoke control systems
- Codes and Standards like ISHRAE, ASHRAE, AHRI, NBC, CIBSE, NFPA & BSRIA

SERVICES (continued)

Electrical Systems

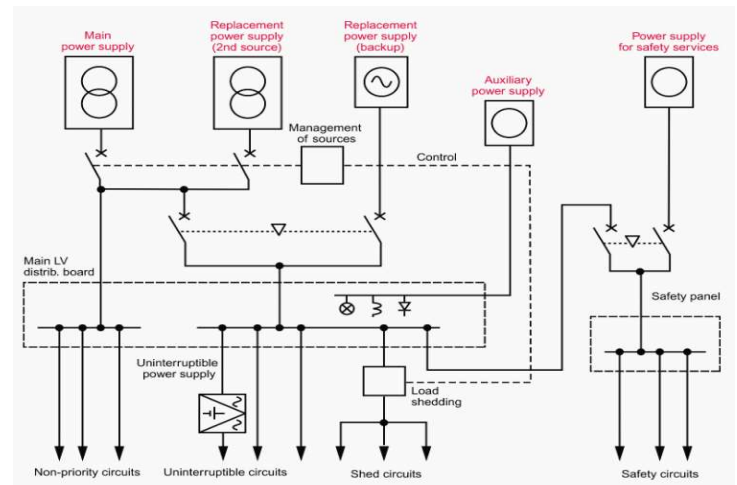
Astra design Electrical and ELV systems to suit the requirements of clients/end users covering all types of buildings – Office / IT sectors, Data centers, luxury Hotels, Hospitals, Malls, cinemas, stadiums, substations, educational academies, Royal Palaces, Residential and Office high rise Towers and industrial buildings.

Our design solutions are optimum as per client requirements in all aspects such as economical, eco-friendly, Energy efficient, sustainable, and easy to maintain.

As we are working on many international projects, we are well versed with International Standards and practices along with local codes and standards.

ELECTRICAL SYSTEMS:

- HV System and Substation
- Power Distribution System
- Lighting control system
- Lux Level calculations
- Small Power system
- Earthing
- Lightning Protection System
- Short circuit studies and Load flow analysis



ELV SYSTEMS:

- Fire Alarm System
- Telecom / Data System
- Security, Access Control and CCTV System
- Public Address System
- Integrated Building Management System (IBMS)
- Home Automation System
- MA TV & IP TV System

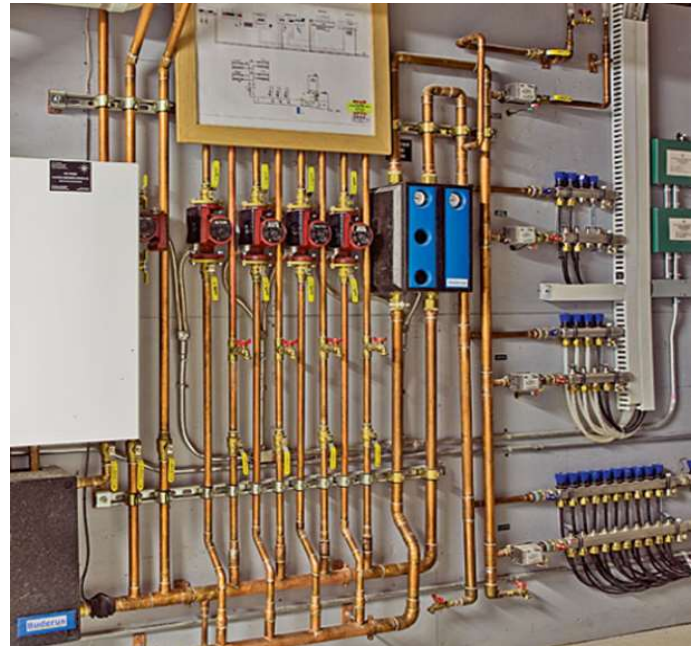


SERVICES (continued)

Plumbing Systems

Astra provides PHE Design services for all types of buildings – Residential, Office / IT buildings, high rise towers, luxury Hotels, Hospitals, Malls, and large Infrastructure projects. We intend to give optimized design solutions which are economical, easy to maintain, and with low operating costs. Our designs are energy efficient and with environmentally sustainable green initiatives. To achieve this, we maintain a continuous search for innovative technologies, a comprehensive database of all the products, and local construction practices.

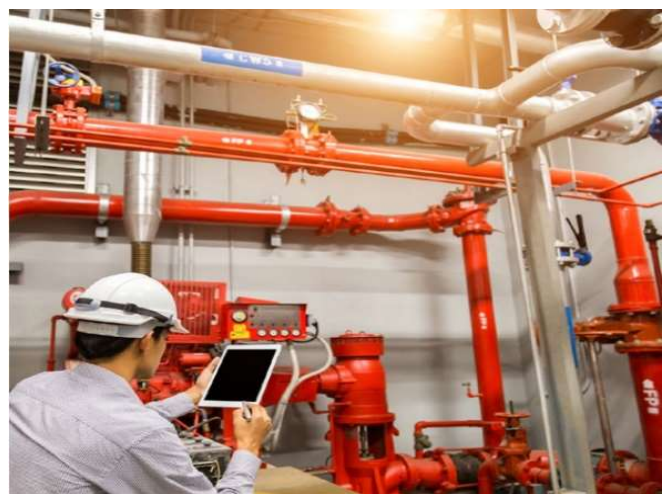
- Potable Water Source / Storage System
- Water Supply Distribution System
- Water Treatment Systems
- Flushing Water Pumping & Distribution System
- Hot Water Supply System
- Centralized Hot Water Supply System
- Solar Hot Water Generation & Distribution System
- Soil & Wastewater Collection and disposal system
- Infrastructure Drainage System
- Sewage Treatment Systems
- Building Rainwater System
- External Storm Water System
- Rainwater Harvesting & Recharging
- Solid waste Management system
- Familiar with International Plumbing codes



Fire Protection Systems

Fire protection is a critical requirement in projects. This is especially critical where construction clearances can be obtained only after the plans for the fire protection are approved by Fire authorities. The experience of working on many international projects to international standards and the in-depth knowledge of codes & standards make us the leading designers. We try to optimize every design with significant value engineering well within the norms.

- Fire Pumps & Fire Water Distribution, Storage System
- Automatic Sprinkler Systems
- Fire Hose Reel System
- Portable Fire Extinguishers
- Internal & External Fire Hydrant System
- Foam System
- Gaseous Fire Suppression System
- Water Mist Fire suppression system
- Pre-Action Suppression System
- Hydraulic calculations with HASS software
- NFPA standards and NBC



SERVICES (continued)

BIM Services

The MEP BIM process focuses on interferences and resolves them before construction. A precisely developed BIM Model helps to reduce MEP service clashes significantly.

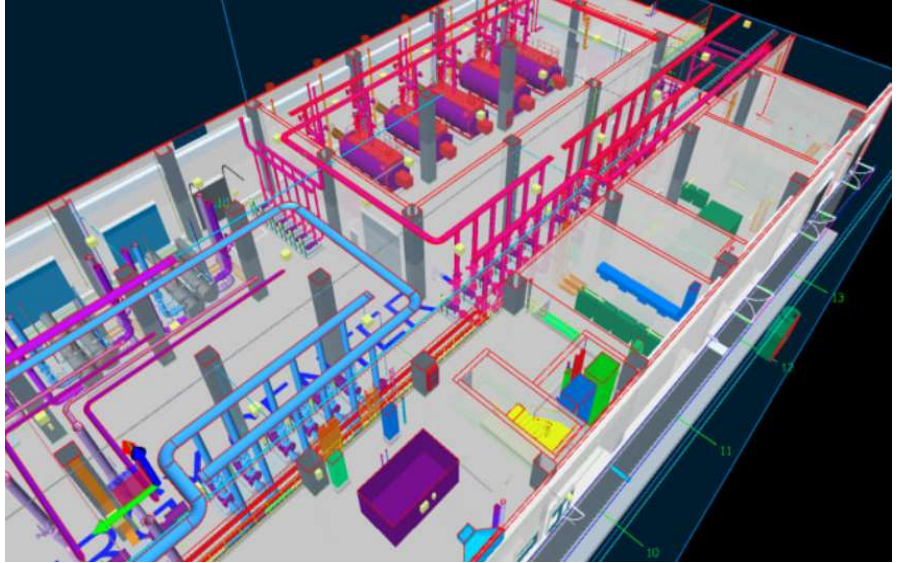
Astra excels in providing MEP BIM services for system design and endorsement. The in-house team of BIM specialists convert 2D drawings into clash free coordinated 3D MEP BIM models using Revit and Navisworks.

During MEP BIM coordination, project stakeholders eliminate clashes and further take it up with Engineers and

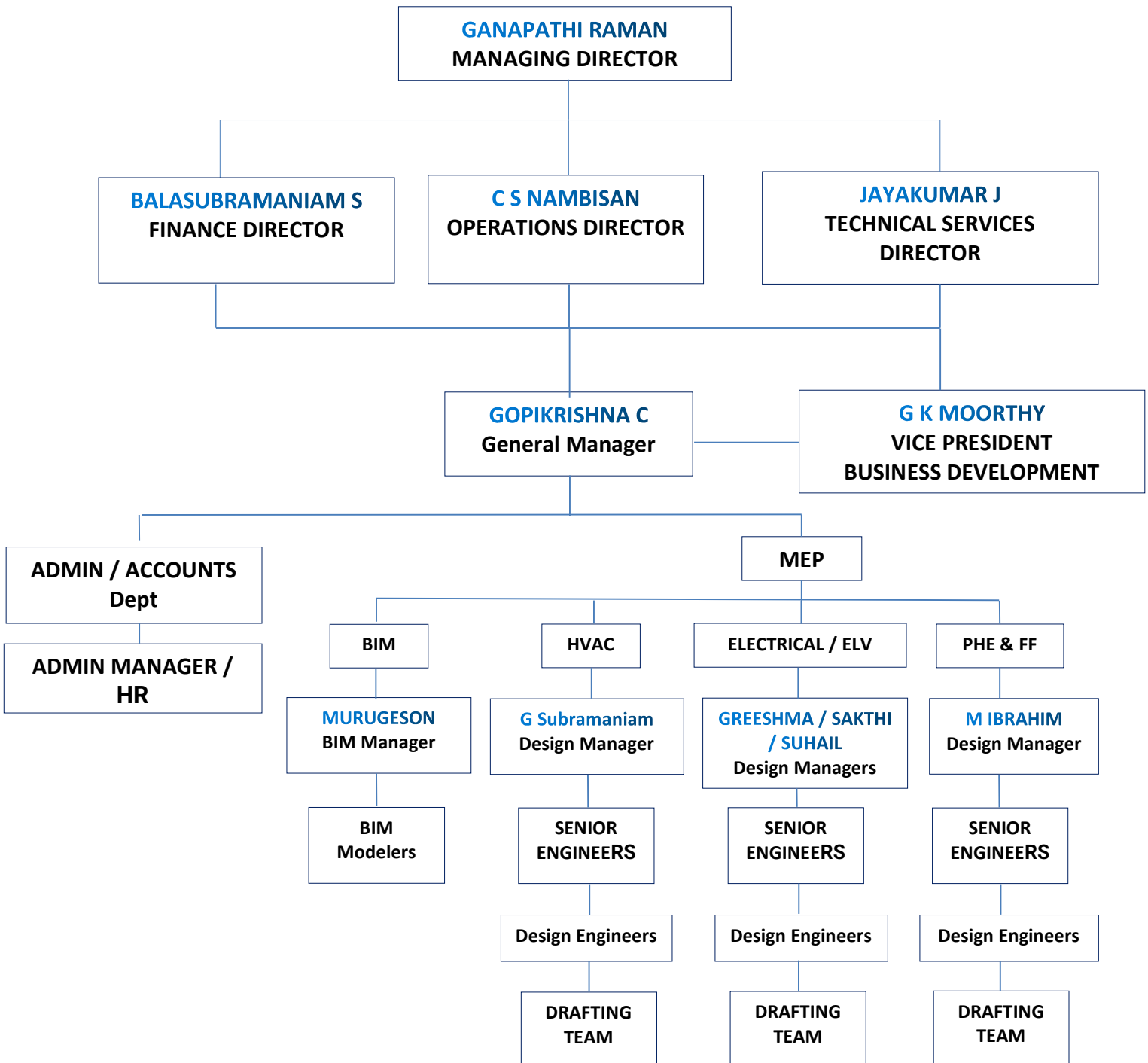
Architects for impact studies and resolution. Our BIM modelers understand the importance of high quality and detailed MEP deliverables as per international industry standards. Astra's highly experienced MEP engineers provide MEP 3D modelling services, MEP coordination drawings and MEP layouts using BIM service, considering project quality and maintainability.

Astra specialize in providing building information modeling (BIM) services for mechanical, plumbing, and electrical systems and caters to End users, Clients, MEP contractors. Our expertise in MEP BIM projects enable early identification and resolution of conflicts.

Astra has successfully completed variety of BIM projects involving highest industry standards and stringent time schedules.



Organization structure



Project List

Key List of Projects:

Astra specialize in designing commercial, residential and multiuse development projects including airports, malls, universities, hospitals, retails, restaurants, convenience stores and shopping centers. We handle building design to MEP engineering and fuel system design for a variety of both local and international clients.

- Design Consultancy for 32 No. Sports complex Buildings ASPIRE Zone including largest sports hall / facilities -extensive studies /design of Fire Fighting systems sprinkler systems, Fire PA/VA, Smoke control systems to NFPA standards & Civil Defence authority approval.
- Concept to Detailed design and Interior fit out for Palaces and MEP infra structure design – 4000 TR Chiller systems, 10MW Power, 12000 TR District Cooling plant for Sports stadium with Associated 11 KV chiller plant systems,15 MW power, 23000 TR .
- Barwa Al Baraha -Development of Design for 5000 Apartment complex, 30 no shopping complex, Mall, with related amenities, infra structure Design and Interiors .40 MW Power
- MEP Design for infra structure facilities for large stadiums – 45000 spectators – 1200 mm dia Chilled water piping, 600 /900 mm Drainage piping, Stormwater designs, extensive MV and LV cabling
- Al Wakhra Educational facilities – 54 000 Sq meter Built up area
- Defence Project for Army, Air Force facilities like hangars, workshops, warehouse etc., in Afghanistan
- Many workshop and Warehouse Projects for various industries
- MEP design of 23 Buildings for Chlorine Plant buildings project
- MEP Design for Buildings for more than 35 No HV GIS Sub stations of 400KV, 220KV,132KV,66KV,
- Various Consultancy projects for Industrial and commercial buildings for Qatar Petroleum, Qatar Gas, RLIC .
- Various Residential Towers

Project List

- Large Entertainment destinations -150 Acres -major infra structure Design and 25 no's facility Buildings
- International Airport 20 no Restaurants, food outlets and duty free fit out works
- Aspire Zone Hospital
- Firefighting, Fire alarm systems for Metro lines in Qatar -Design review/redesign to suite Civil Defence regulations
- Al Jazeera TV station MEP design
- Qatar University External firefighting system Design to NFPA
- Redevelopment of port area -infra structure and buildings – Garden District – 100 acres
- Garden/park development projects including Irrigation system.
- Al Jassim Tower 2B+ 14Floor furnished apartments , Residential 3B+G+42 floors.
- Peer review of Data Centre HVAC design
- Specialized Storm water design for various large project areas.
- Mina District – 40 Buildings MEP Design, fit out for retail areas
- Office Towers up to 2B+G+ 52 Floors
- Hotel Project 3B+G+ 42 Floors
- As Local Design review consultants for over 500-metre Tower for mixed use - offices, hotel, premium Apartments
- Design services for Oil/gas industries, petro chem plants, offshore platforms.
- Specialist ETAP Power system Studies - short circuit calcs, load flow, relay settings, motor acceleration studies, harmonics, etc.

Oil & Gas - MEP Projects

Team Astra has executed various MEP projects in the Oil and Gas fields and has a strong work force to execute fast track projects.

Some of the Oil and Gas / associated projects are listed below.

- MEP Consultancy Services for Chlorine Production Plants which has 33 Nos of various buildings
- North Field East (NFE) LNG Train projects involving 23 Nos of various buildings including Substations, Processing Plants, ITR and other buildings for Qatar gas.
- NGL Plant – Control and other buildings at Umm Said.
- Workshops at Ras Laffan Industrial LNG plant City.
- Pumping Station for Qatar Petroleum Umm Said.
- Various Qatar Petroleum Projects at Dukhan.
- Design services for various Oil/gas industries, petro chem plants, offshore platforms in Qatar region.
- Consultancy Services for Gas Distribution Stations of Qatar Petroleum, Safety audits
- Multiple Consultancy services for Halul Island projects , Qatar Petroleum



SPORTS

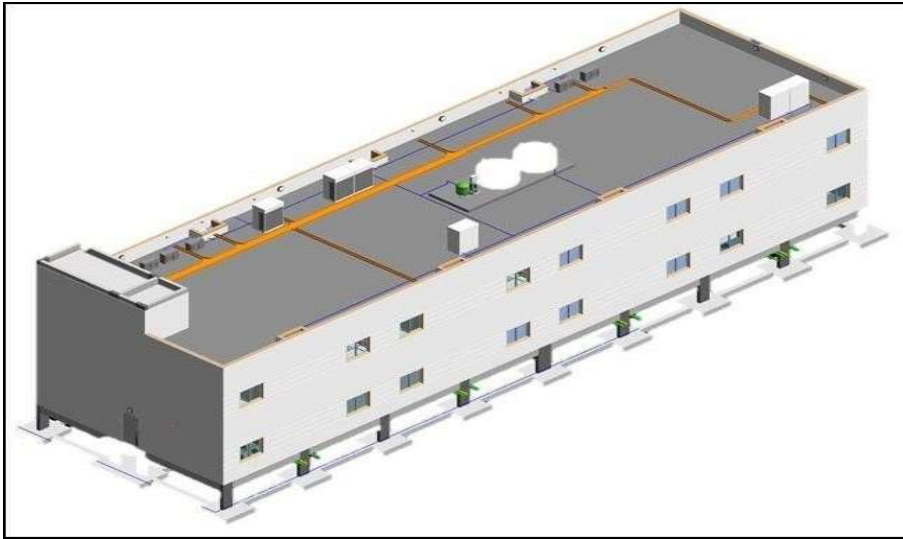









Project	Khalifa International Stadium
Client / Architect	Aspire
Location	Doha, Qatar
Details	MEP For Stadium Infrastructure
Area	1,18,000 Sq. Mtr.
Status	Completed
Services	MEP Design Consultancy Services





Project	Aspire Zone
Client / Architect	Aspire Logistics
Location	Doha, Qatar
Details	Fire Infra Upgrade
Area	1525 Acres
Status	Completed
Services	MEP Design Consultancy Services

INDUSTRIAL PROJECTS



 Project	Porcelain Factory
 Client / Architect	Porcelain
 Location	Qatar
 Details	Industrial Building- 2 Floor
 Area	42,000 Sq. Mtr.
 Status	Completed
 Services	MEP Design Consultancy Service










 Project	Al Meera Warehouse
 Client / Architect	Al Meera
 Location	Qatar
 Details	Dry & Wet Warehouse
 Area	32,000 Sq. Mtr.
 Status	Completed
 Services	MEP Design Consultancy Service

INDUSTRIAL PROJECTS










	Project	QFZ Industrial Warehouse – LIU 12 nos
	Client / Architect	Qatar Free Zone Authority
	Location	Ras Bu Fontas, Qatar Free Zone
	Details	Light Industrial Units – 12 Nos
	Area	16,480 Sq. Mtr.
	Status	Completed
	Services	MEP Design ConsultancyService



	Project	QFZ Industrial Warehouse- 8 LIUs
	Client / Architect	QFZ
	Location	Ras Bu Fontas, Qatar Free Zone
	Details	Light Industrial Units – 8 Nos
	Area	15,408 Sq. Mtr.
	Status	In Progress
	Services	MEP Design ConsultancyService

INDUSTRIAL PROJECTS







	Project	Kahramaa Substations MEP - 35 nos
	Client / Architect	Kahramaa (LNT)
	Location	Qatar
	Details	132/66/11 kV Substations – Buildings
	Area	Each appx. 2000 Sq.Mtr
	Status	Completed
	Services	MEP Design ConsultancyService










	Project	Al Bidda Car park Substations
	Client / Architect	Kahramaa
	Location	Qatar
	Details	132/33 kV substation
	Area	38000 Sq. Mtr.
	Status	Completed
	Services	MEP Design ConsultancyService

COMMERCIAL PROJECTS










	Project	Al Jazeera Digital Division Building
	Client / Architect	Al Jazeera
	Location	Qatar
	Details	Office / Media Building
	Area	2000 Sq.Mtr
	Status	Completed
	Services	MEP Design Consultancy Service



	Project	Palace in Gulf
	Client / Architect	Confidential
	Location	Confidential
	Details	Private Building
	Area	Confidential
	Status	Completed
	Services	MEP Design Consultancy








HOSPITAL



 Project	Aspetar – Orthopaedic Hospital
 Client / Architect	Aspire Zone
 Location	Qatar
 Details	Health Care
 Area / Floors	1500 Sq. Mtr.
 Status	Completed
 Services	MEP Design Consultancy Service

INSTITUTION



	Project	Confidential
	Client / Architect	Contraco
	Location	Qatar
	Type	Institution
	Area	59,951 Sq. Mtr.
	Status	Completed
	Services	MEP Design ConsultancyService

ENTERTAINMENT PROJECTS



	Project	Qariah – World Entertainment
	Client / Architect	Qariah
	Location	Al Khor -.Qatar
	Details	Global Village and Entertainment destination
	Area /Floors	140 Hectares
	Status	Ongoing
	Services	SMEP Design Consultancy Service

APARTMENT PROJECTS



	Project	LPS-1 LA PLAGE SOUTH
	Client / Architect	ALI HAMAD K ALTHANI
	Location	Pearl Qatar, Doha, Qatar
	Details	2B+G+6 Residential Building
	Area / Floors	250 Apartments
	Status	Ongoing
	Services	MEP Design Consultancy Service

FARM PROJECTS



	Project	Proposed Shrimp Farm At Al Areesh
	Client / Architect	ITQAN Trade and Integration Solution
	Location	AL Areesh, Al shamal municipality, Qatar
	Details	Domestic production of shrimp usage of State of Qatar
	Area /Floors	1.1 Million sq M -Plot Area
	Status	Ongoing
	Services	MEP Design Consultancy Service



	Project	LARC
	Client / Architect	Qatar University
	Location	Qatar
	Details	Laboratory of Animal Research Centre
	Area / Floors	Extension and Existing Blocks
	Status	Ongoing
	Services	MEP Design Consultancy Service



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STAFF EXPERIENCE



	Project	Arwa Tower
	Client / Architect	Sheikh Faisal
	Location	Qatar
	Details	2B+G+35 Floor Residential
	Area	8,00,000 Sq. Ft
	Status	Completed
	Services	MEP Design Consultancy Service



	Project	Hilton Serviced Apartment
	Client / Architect	Hilton Group
	Location	Qatar
	Details	3B+G+42 Storey Apartment
	Area	8,00,000 Sq. Ft
	Status	Completed
	Services	MEP Design Consultancy Service



	Project	Al Hitmi Office
	Client / Architect	Al Hitmi
	Location	Qatar
	Details	2B+G+6 Storey Office Building
	Area	2,00,000 Sq. Ft
	Status	Completed
	Services	MEP Design Consultancy Service










	Project	Al Faisal Tower
	Client / Architect	Sheikh Faisal
	Location	Qatar
	Details	B+G+52 Office Building
	Area	4,50,000 Sq. Ft
	Status	Completed
	Services	MEP Design Consultancy Service










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	Project	Dareen Tower
	Client / Architect	Sheikh Faisal
	Location	Qatar
	Details	2B+G+35 Storey Apartment
	Area	6,50,000 Sq. Ft
	Status	Completed
	Services	MEP Design ConsultancyService



	Project	Shangri La Hotel & Apartment
	Client / Architect	Al Jazi Real Estate
	Location	Qatar
	Details	2B+G+35 Storey Hotel & Apartment
	Area	6,00,000 Sq. Ft
	Status	Completed
	Services	MEP Design ConsultancyService



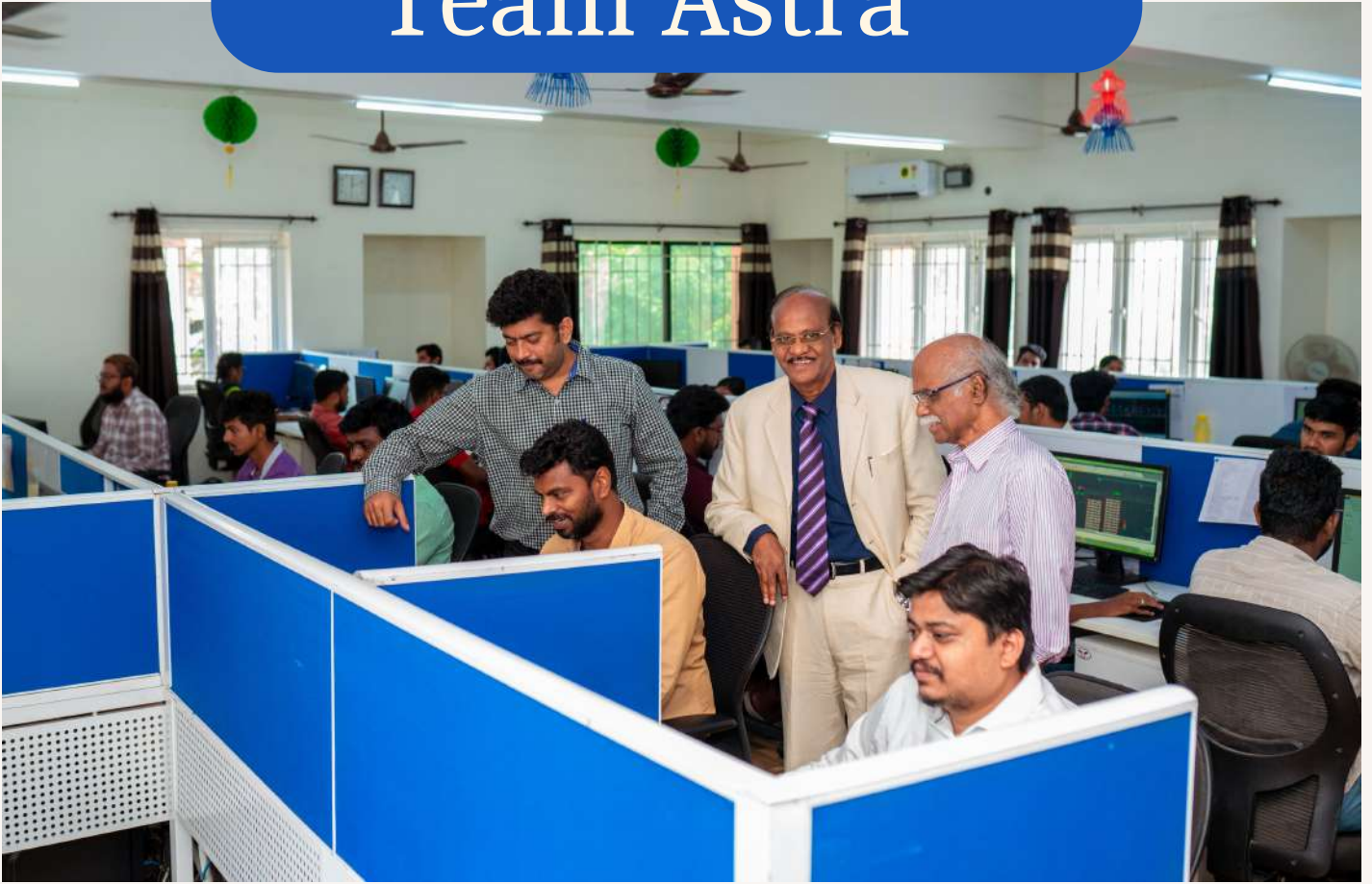
	Project	Riyadh Metro
	Client / Architect	FCC
	Location	Riyadh
	Details	Detailed Drawings Submissions
	Area / Floors	5 nos Underground & 2 nos of Elevated stations
	Status	Completed
	Services	Detailed Drawings preparation and coordination

	Project	Riyadh University
	Client / Architect	Ministry of Finance
	Location	Riyadh – Kingdom of Saudi Arabia
	Details	Detailed Drawings Submissions
	Area / Floors	200,000 sq M
	Status	Completed
	Services	HVAC Engineering Services

Team Astra



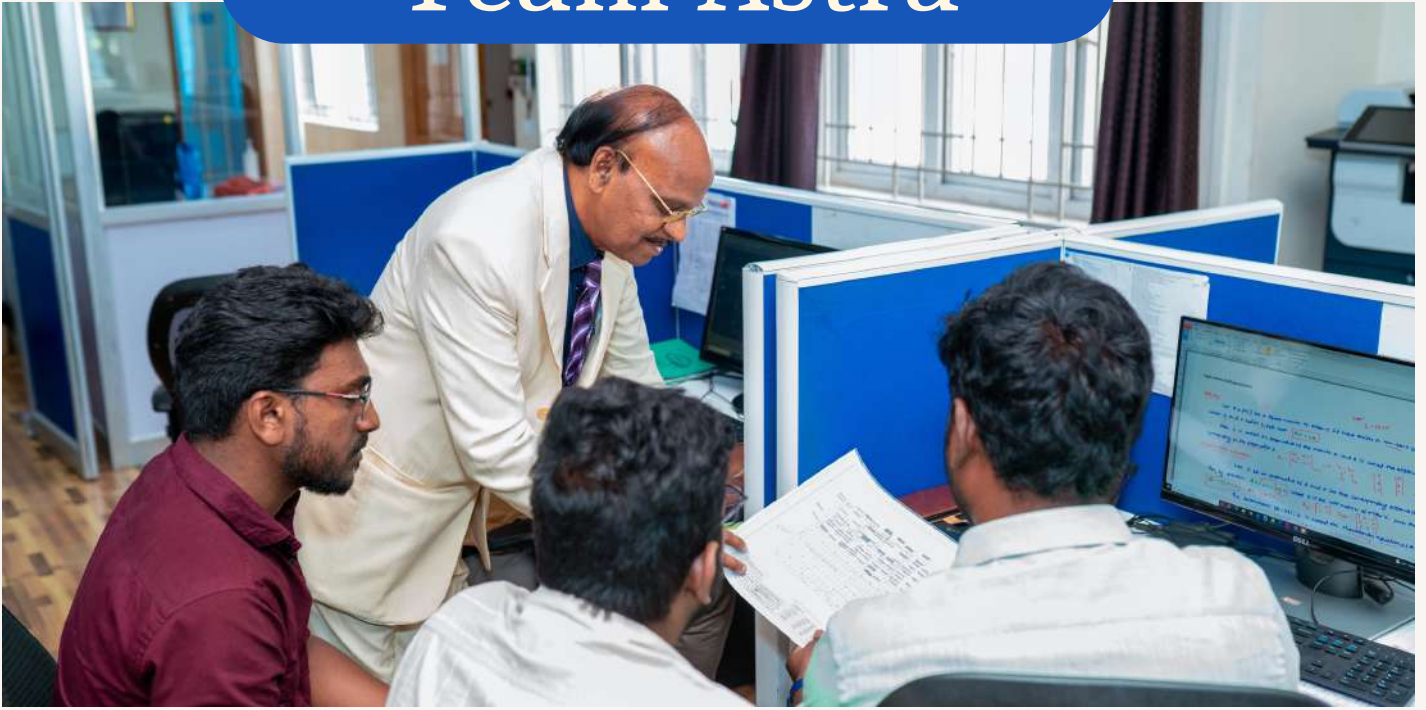
Team Astra



Team Astra



Team Astra



Team Astra



Team Astra



Team Astra



Team Astra



Team Astra



Vision & Contacts

Vision

Astra shall be a professionally managed
Global engineering organization committed to work with
Perfection to the Satisfaction!

Astra Shall consistently achieve high standards
in the work we do and the way we behave.

Astrait's strive to produce exemplary results
by impressing and inspiring all our stakeholders while
Connecting with Quality!

Astra strongly believes that
Learning is Continuous and shall ensure
Giving back to Society!

Mission

We join forces with our Stake holders
in accomplishing their sole purpose by
"Imagineering our Vision".

HR Statement

It is a courageous, exceptionally satisfying pursuit that our ever more diverse team is committed to achieving.

Astra is built around the concept that every employee should be able to take pride, a sense of ownership in where they work, what they do, and how it has done! To that end, we empower people around to use their skills, passions, and talents to enjoy building most iconic and challenging spaces in the world.

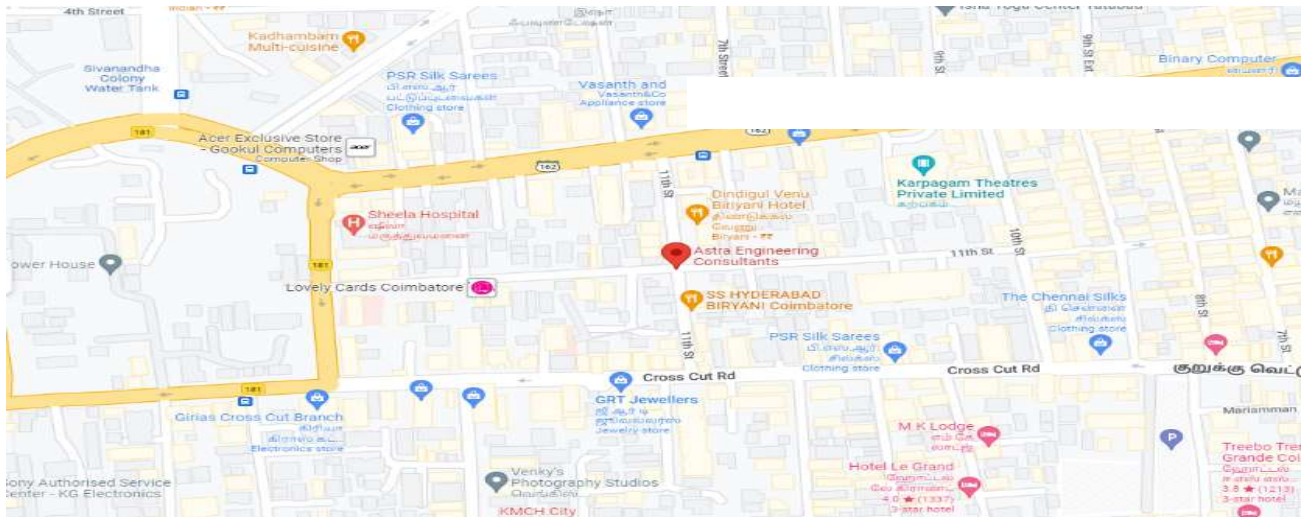
Exciting trial awaits you – new vistas, latest technologies, and complex Projects. Sailing with our core values, we will take on these challenges constructively and with support of our international clientele.

Join Team Astra!



Vision & Contacts

For further information about how we can work together and can help you with your next project, please use this form to get in touch with us. We look forward to hearing about your project and working together in the future.



Coimbatore - HQ

#72, 2nd floor, 11th Street,
Tatabad,
Coimbatore – 641012.

Bangalore

377/61, 2nd floor, 19th Main Road,
1st Block, Rajaji Nagar,
Bangalore – 560010.

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THANK YOU



Clients are our assets,
Their vision is our service

www.astraec.com



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