



COMPANY PROFILE



SATCON

**(Design, Engineering & Consultancy
services for EHV Substations,
Transmission Lines and Industrial
Power Projects)**

<https://satcon.in>



Introduction :

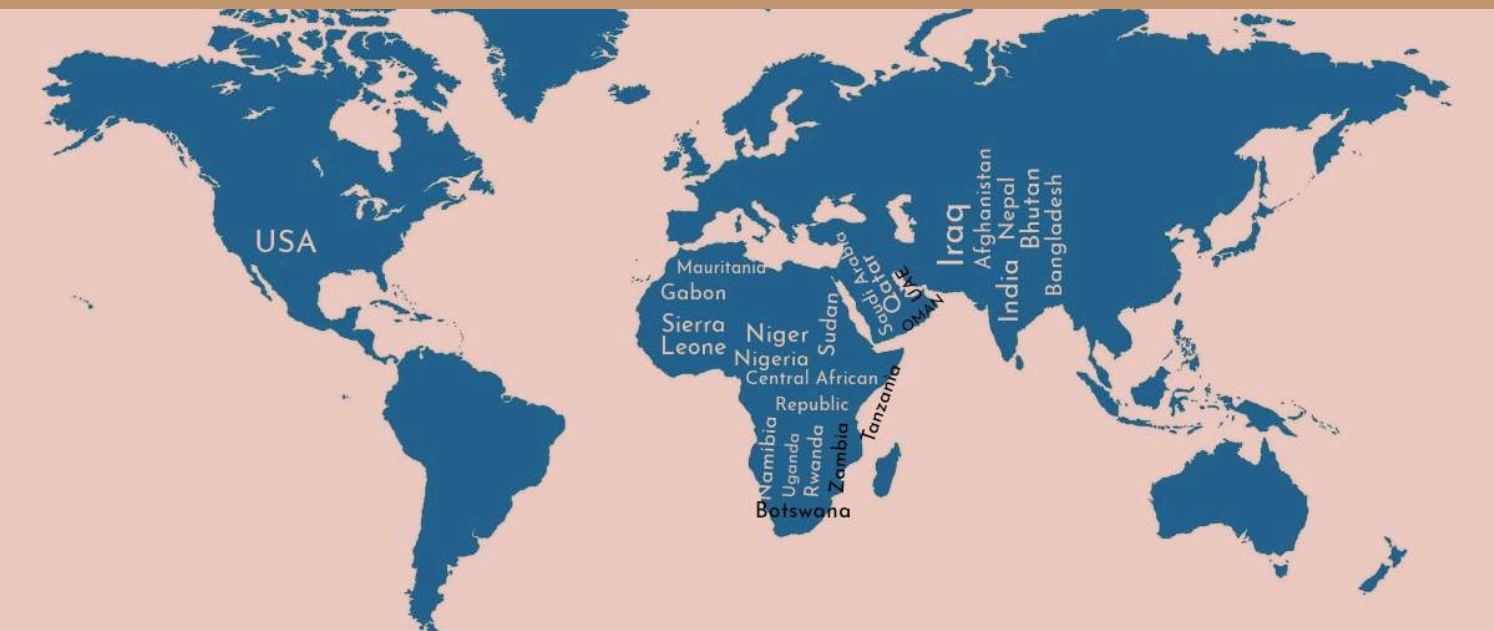


Satcon is an Engineering Consultancy firm based in Kolkata, West Bengal, India established in year 2004 and providing services in Detail design and engineering of Extra High voltage Substations, Transmission lines (400kV and below), Industrial power projects, Power Distribution in Oil & Gas, Power evacuation systems of Renewable Power generating plants. Services provided also includes Topographic contour survey, Geotechnical investigation, Power system studies by ETAP software, Feasibility Study report, Detail Project reports, Project management services and Supervision of Engineering, supply, erection, testing and commissioning in India, Asian, Middle East, Africa and other parts of the World.



Services provided in :

Satcon has provided consultancy services in projects located in following countries :



Satcon

Registered Address : AI-56, Street no. 29, New Town,
West Bengal-700156, India

Type of Projects

In which SATCON participates



1. EHV Substation Projects (AIS/GIS) (Indoor/Outdoor 765kV and below for Utility and Industries).
2. EHV Substations and Transmission lines for Solar and Wind Power generations (400kV and below).
3. EHV Transmission Lines (400kV and below).
4. HV/MV Power receiving and distribution system in large industries (Steel, Material handling, Oil & Gas).
5. Rural Electrification projects, smart metering.
6. Control & Instrumentation projects for Steel, FGD, Thermal power plants, Oil & Gas projects.
7. Substation Automation system, Fiber optic terminals for Protection, data and speech communications.
8. Electrical power system studies using ETAP software.
9. Technical audit of EHV/HV/MV/LV electrical systems.
10. Projects involving creation of 3D layout drawings of Substations, Industrial buildings, Transmission Tower, Substation structures etc.
11. Projects involving Fabrication drawings and Shop drawings of Steel structures for Transmission line and Substations.



List of Past & Present Indian Clients



ABB Ltd.



ABN Tower
Transmission Pvt. Ltd.



Anther Alloys Ltd.



Areva T & D India
Ltd.



ArcVac Forgecast Pvt.
Ltd., Kolkata



Bajaj Electricals Ltd.,
Mumbai



Blue Star Ltd.



British Oxygen Co.
Ltd., Kolkata



Bridge and Roof Co.
India Ltd.



CESC Ltd.



Consulting
Engineering Services,
Kolkata



Concept Engineering
Projects Pvt. Ltd., Pune



Dept. of Power,
Arunachal P.



EMC Ltd., Kolkata



Flowmore Ltd., Ranchi



GE T & D India Ltd.,
Kolkata



Godrej & Boyce Mfg. Co.
Ltd., Mumbai



Genus Power
Infrastructures Ltd.,
Jaipur



Global Hydro Energy
Pvt. Ltd, Delhi



India Power,
Kolkata



Indo Power Projects
Ltd., West Bengal



Jakson Ltd., Ranchi



Jindal Steel & Power,
Haryana



Kalpataru Power
Transmission Ltd.,
Noida



Larsen & Turbo
Ltd., Construction,
Tamilnadu



Macawber Beekay
Pvt. Ltd., Noida



Maknan Consultancy
Pvt. Ltd.,



McNally Bharat
Engineering Co. Ltd.,
Kolkata



Mecamidi HPP India Pvt.
Ltd., Noida



Neccon Power & Infra
Ltd., Assam



Power Tech Industrial
Services,
Visakhapatnam



REW Contracts Pvt. Ltd.,
Ghaziabad



Siemens Ltd.,
Mumbai



Shyama Power India Ltd.,
Haryana



Supreme & Co. Pvt. Ltd.,
Kolkata



Shyam Steel Industries
Ltd., Kolkata



Technisys Engineering
Pvt. Ltd., Haryana



Teren Power Pvt. Ltd.,
Rajasthan



Techno Electric
Engineering Co. Ltd.,
West Bengal



List of Past & Present Overseas Clients



AFCONS



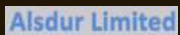
AJF Trading
& Mining Company
Nigeria



AI SAD, Abu Dhabi



ASAS Engineering
and Project Management
Consultancy, Abu Dhabi



Alsdur Limited, Nigeria



Altenergy Power Ltd.,
Nigeria



Assist Consultant Inc.,
Afghanistan



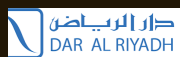
BES (Europe) Ltd.,
United Kingdom



CARAVAN, Mauritania



Construction Development
Company LLC., Qatar



DAR AL RIYADH,
Saudi Arabia



Desolenator



Dynamic Power
Construction Company
Ltd., Nigeria



EDSA, Sierra Leone



EGEC Qatar for
Engineering Consultation



Energy System Studies,
USA



Elektron Energy, Nigeria



Gharany Excellence
Construction, Afghanistan



Global Atomic
Corporation, Canada



GSEZ Infrastructure SA,
Gabon



Hambleton Holding Inc.,
Nigeria



Hoquado Ltd.,
Nigeria



Income Electrix Ltd.,
Nigeria



Joe's Electrical
Contractors, Botswana



Kelvin Gulf, Abu
Dhabi



L & T, Sharjah



Laga Cpower Ltd.,
Nigeria



Masterlogist Construction
Group, Afghanistan



Novin Simia Company,
Afghanistan



Nespak Nigeria Ltd.,
Nigeria



Pinggao Group Co. Ltd.,
China



Qingdao Wuxiao Group
Company Ltd., Nigeria



Rap Power Industries
Ltd., Nigeria



Sinohydro, China



TBEA Shenyang, China



Tech System Ltd., Nigeria



Transmission Company
of Nigeria



Top Development
Consult., Saudi Arabia



T & D Technologies Ltd.,
Nigeria



Trans Gulf International
Electro Mechanical W.L.L.,
Qatar



United Construction
Establishment, Qatar

SERVICES



*Design and Engineering Services for Electrical, Civil, Structural, Substation Automation, PLCC/F.O Communication System, Fire protection, CCTV, AC & Ventilation system of **400kV (and below) Indoor GIS Substations.***

*Design and Engineering Services for Electrical, Civil, Structural, Substation Automation, PLCC/F.O Communication System, Fire protection, CCTV, AC & Ventilation system of **765kV (and below) Outdoor Air Insulated Substations.***



*Design and Engineering Services for Electrical, Civil, Structural, Substation Automation, F.O Communication System, Fire protection, CCTV, AC & Ventilation system of **33kV and below Indoor GIS / AIS Substations.***

Design and Engineering Services for Electrical, Civil, Structural works of 400kV and below Overhead Transmission Lines.



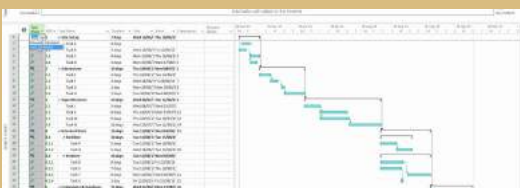
*Design and Engineering Services for Electrical, Civil, Structural, Substation Automation, PLCC/F.O Communication System, Fire protection, CCTV, AC & Ventilation system of **220kV Outdoor AIS Substations for Large Solar / Wind Power Generating Plants.***

*Design and Engineering Services for Electrical, Civil, Structural works of **33kV and below Rural Electrification Projects** including LV power distribution and installation of smart meters.*



*Design and Engineering Services for Electrical, Civil, Structural works of Electrical and Instrumentation systems of **Large industries like Steel Plants, Material Handling Plants, Flue Gas Desulphurisation (FGD) Plants, Oil & Gas field Projects etc.***

***Topographical Contour Survey by DGPS, Geotechnical Investigation Tests including Soil resistivity Tests** for Substation plots and Transmission line routes.*



***Project Management Consultancy Services including control and supervision of Erection, testing and Commissioning** for EHV Substation, Transmission line and Industrial Power Projects*

SERVICES (CONT)



*Preparation of Civil and Structural design and drawings like Gantry Towers, Beams, Equipment support structures, Substation buildings, Structure and equipment foundations, Roads & Culverts, Drainage systems, Cable trenches, Roads, Boundary wall, Retaining walls of **400kV (and below) Indoor GIS Substations**.*

*Bid valuation and Vendor drawing review of various electromechanical equipment for **765kV (and below) Outdoor Air Insulated Substations**.*



Electrical Power System studies such as Load flow study, Short circuit and Earth fault study, Motor starting study, Protection coordination, Harmonic analysis, Earthing calculation, Cable thermal analysis by ETAP software.

Design and Drawings of Fire fighting systems including design of Fire fighting pump house, Reservoir, Fire hydrant pipeline, High velocity water spray system (HVWS) of Large power transformers, Reactors. Design also includes Nitrogen injection fire protection system (NIFPS) of Transformers.



Design and Engineering Services for Air conditioning and Ventilation systems of Large Indoor substation buildings including Control rooms, Relay rooms, Switchgear halls, Office, Conference rooms and Battery rooms.



Civil and Structural design calculations of Gantry towers, beams, Transmission line towers, Overhead line poles, Equipment support structures, Substation control buildings, Switchgear buildings, Store, Security barrack, AE's quarter, Staff quarters, Inspection bungalow, Dormitory, Security gate house, Boundary wall, Retaining walls using stadd.pro and staad foundation software.



Transmission line Sag & Tension calculation, Sag profile chart, Sag & tension stringing charts using PLS CADD software.

Type of Drawings and Designs provided



Following Drawings and Designs are prepared on regular basis for different Clients in India and Abroad :

1. Relay and Metering SLDs of EHV switchyards, MV switchgear panels, LV switchgears and MCC panels.
2. Electrical layout plan & elevation of EHV switchyards, GIS substation buildings, indoor substations, Control buildings and plant electrical rooms.
3. Erection key diagram of EHV switchyards along with BOQ of clamps, connectors, conductors, shield wires, hardware.
4. Clearance diagram for EHV switchyards.
5. Cable trench layout with BOQ of cable trays, bends, Tee, reducers, cable racks etc. for EHV switchyards, GIS substation buildings, indoor substations and plant electrical rooms.
6. Earthing calculation and earthing layout with BOQ of all earthing materials for EHV switchyards, GIS substation buildings, indoor substations and plant electrical rooms.
7. Direct stroke lightning protection (DSLSP) calculation and layout of EHV switchyards, GIS substation buildings, indoor substations and plant electrical rooms.
8. Interlocking diagrams for 400kV, 220kV, 132kV, 33kV switchyards. Protection trip logics.
9. Control cable block diagrams and estimation.
10. Power cable schedule and interconnection chart.
11. Control cable schedule and interconnection chart.
12. Control schematics for MV & LV motor feeders in MCC - Unidirectional, Bidirectional, VVVF drives.
13. Lighting calculations, SLD for lighting distribution and layout with BOQ of lighting materials for outdoor switchyard, road, open areas, substation buildings, staff quarters, plant buildings, conveyor galleries, stockpile areas, factory sheds etc.
14. All required Electrical design calculations using software or by MS excel.
15. Civil drawings and design calculations of equipment and gantry tower foundations, Control building, GIS building, GIS bus duct foundations, Switchgear building, Store shed, DG building, Security post cum Dormitory, Transformer oil pit and drain away system, Oil water separator pit, Rail cum Road, Cable trench, Surface drainage system, Boundary wall, Fence, Fence gate.
16. Steel structure drawings and design calculations for Gantry towers, Beams and Equipment supports (Lattice / Pipe type).
17. SCADA system Architecture, Technical specification and BOQ.
18. PLC system Architecture, Technical specification and BOQ.
19. Fiber Optic communication system Architecture, Technical specification and BOQ.
20. Design calculations and drawings of Air conditioning and ventilation systems.
21. Design calculations and drawings of Fire protection system, hydrant and High velocity water spray (HVWS) systems,
22. Design calculations and drawings of Fire detection and alarm system.
23. Design calculations and drawings of Nitrogen injection fire protection systems.
24. Control schematics for LV and MV Motor control centers and interface with Plant control system DCS / PLC.
25. Technical Specifications, Data sheets, Bid evaluation, Vendor drawing review.

Software

We have the license of following Softwares



Electrical Transient Analyser Program (ETAP) for Power System Studies



Staad.pro connect software for Civil & Structural Design and Analysis



Staad.pro connect software for Civil & Structural Design and Analysis



Bentley Microstation software for CAD drawings preparation



Staad Foundation software for Sub Structure Civil Design and Analysis



XG Slab software for Grounding and Lightning protection system Design calculations



Autocad Full version and LT 2024 for CAD Drawings preparation



ActCad software for CAD preparation of Drawings



TrueCad software for preparation of Drawings



CADMATE software for preparation of Drawings



Autodesk Revit software for preparation of 3D layout drawings

Certification, Membership



ISO 9001 certified, 2015



Member - International Trade Council, USA



Medium, Small and Micro Enterprises (MSME) Udyam Registration



Appreciation by International Trade Council, USA

(In addition we have GST Registration, EPFO for Employee benefit, TAN, Import / Export Code as required for Consultancy work of Projects in India and abroad)



Some Major Projects (Overseas)

Since 2004, we have participated in more than 250 EHV Substation, Transmission Line and Industrial Power projects. Only a few major projects are indicated below.





Some Major Projects (Indian)

Since 2004, we have participated in more than 250 EHV Substation, Transmission Line and Industrial Power projects. Only a few major projects are indicated below.



400/220kV
Transformer Bay
extension at
Arambagh, WBSETCL



220/132/33kV Grid
Substation at Godda,
JUSNL



Renovation of 400kV
Substation of PGCIL
at Maithon



132/33kV GIS
Substation at Debra,
WBSETCL



220/132/33kV GIS
Substation at
Sagardighi, WBSETCL



132/33kV Grid
Substation at
Raghopur of BSPTCL



400kV Bus Reactor
bay extension at
Ranchi and Malda of
PGCIL

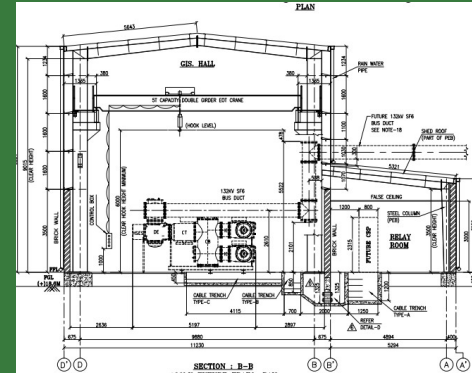


220/132/33kV Grid
Substation at
Jainamore of JUSNL

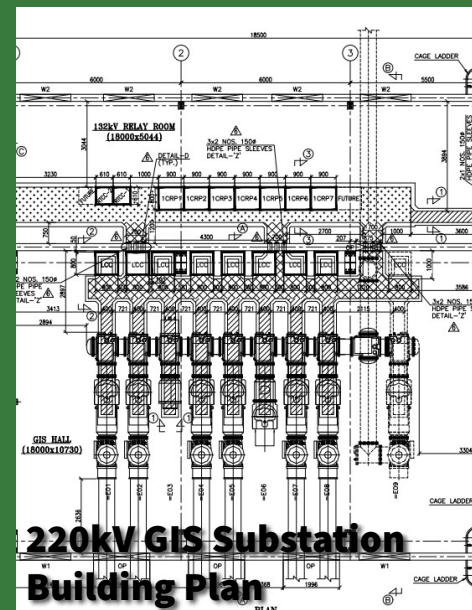
Sample Drawings

(Only a few types are shown below)

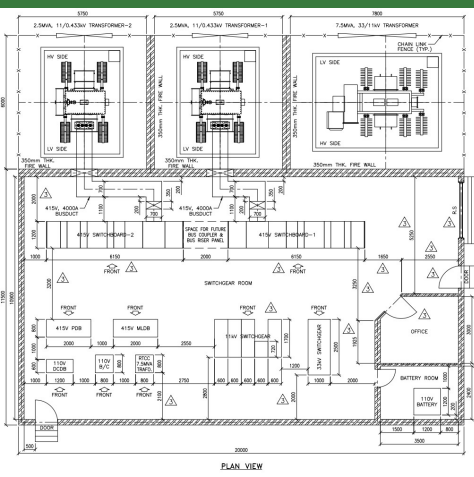
Switchyard Layout Plan drawing



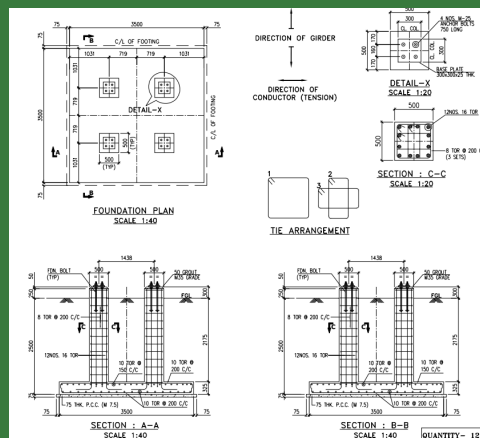
220kV GIS Substation Building Elevation



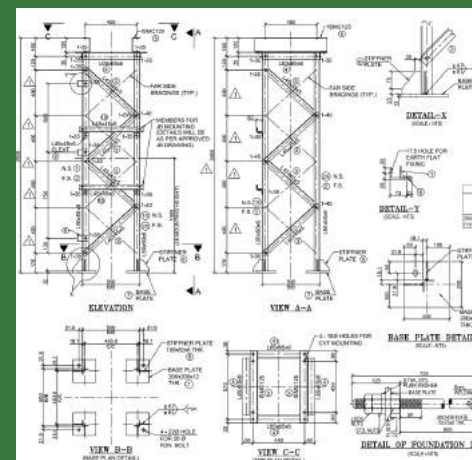
220kV GIS Substation Building Plan



MV Substation Building Plan



Switchyard Foundation Design & Drawing



Switchyard Structure Design & Drawing



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Mumbai, MH 400076, India

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-- Thank You --