



NEWATT ENGINEERING

Global Power Engineering & Consulting Excellence

Power System Studies · Grid Compliance · Substation Design · Renewable & BESS Engineering

2023

Founded

25+

Clients

3 GW+

Delivered

5

Countries

COMPANY PROFILE · 2026

www.newatt.co.in · Arvind.Bhadoria@newatt.co.in

Who We Are & What We Do

A specialist power engineering consultancy with global project exposure across renewables, data centres, utilities and industrial systems.

Founded in 2023, Newatt Engineering Private Limited delivers design, simulation and engineering services across India, Malaysia, the United Kingdom, Africa and international markets. The team brings multidisciplinary experience across renewable energy, power systems, thermal power, steel, semiconductor, manufacturing and infrastructure.

60+

Projects delivered

10+

Engineers

33–400kV

AIS/GIS expertise

5+

Countries served

“Brilliances Through Technology — delivering innovative and sustainable solutions with quality and value.”

Power System Studies

Load flow · Short circuit · Protection · Arc flash · Harmonics · RMS/EMT stability · Grid compliance

Switchyard Design Engineering

End-to-end AIS/GIS 33–400kV layouts, earthing, protection, civil and structural integration

Renewable & BESS Engineering

Solar PV · Wind · Hybrid · Utility-scale BESS · Power electronics integration · SCADA and grid interconnection

The Principles That Power Everything

A focused engineering culture built around integrity, precision and client value.

VISION

To be a leading provider of innovative consulting solutions, delivering value to clients through excellence, integrity and commitment to quality.

MISSION

Delivering innovative and sustainable solutions with focus on quality and value, to help clients achieve goals and drive growth.

NEWATT PROMISE

Brilliances Through Technology — practical engineering intelligence for high-value infrastructure decisions.

Integrity

Excellence

Sustainability

Partnership

Innovation

Integrated Engineering Across the Full Project Lifecycle

From feasibility to design approval, studies, documentation and final client submission.

Power System Studies

LF · SC · Relay · Arc flash ·
Harmonics · Stability

Switchyard Design

AIS/GIS 33–400kV · SLD · Layout ·
Protection

Renewable Engineering

Solar · Wind · Hybrid · BESS · Grid
interconnection

Grid Compliance

LVRT · HVRT · FRT · G99 · G5/5 · CEA ·
TNB

Relay Coordination

Settings · TCC · Selectivity · HV/EHV
protection

Earthing & Lightning

CDEGS · IEEE 80 · IS 3043 · LPS risk
assessment

BIM & Pre-Bid

Revit · DPR · Tender engineering ·
PVsyst yield

Cable Engineering

Sizing · Schedule · Routing · Pulling
calculations

Single-window engineering support for EPCs, developers, OEMs, data centres, utilities and government-facing infrastructure.

Simulation · Analysis · Compliance · Safety

Digital twin modelling to optimize network performance and regulatory approval readiness.

STEADY-STATE & PROTECTION

- Load Flow Analysis
- Short Circuit Analysis
- Relay Coordination Studies
- Motor Starting Studies
- Arc Flash Analysis
- Harmonics Analysis
- Reactive Power Capability Study
- DC Current Injection
- Flicker Analysis

TRANSIENT & SPECIAL STUDIES

- Insulation Coordination
- TOV / SFO / FFO / TRV
- Ferro-resonance
- Transformer Energization
- LVRT · HVRT · FRT
- Contingency N / N-1 / N-2
- Grounding Studies
- Cable Pulling Calculations

Platforms: ETAP · PSCAD · PSS®E · DIgSILENT · SKM · AutoCAD

Grid Compliance · Stability · Power Quality

Specialized analysis for solar, wind, hybrid and BESS interconnection.

STUDY STATE

Load Flow [AC/DC] · Short Circuit · PV/QV Voltage Stability · OPF · N/N-1/N-1-1/N-2 Contingency · V-Q/P-Q Capability · Protection & Selectivity · Grid Code Compliance

DYNAMIC RMS

Transient stability · Frequency stability · Load shedding · LVRT/HVRT RMS · Frequency response · Voltage response · PPC operating frequency range · Dynamic grid code behavior

TRANSIENT EMT

EMT transient stability · THD/frequency scan/filter design · Sags/flicker/swells/imbalance · Detailed LVRT/HVRT · DC current ejection · Inverter/controller-level PSCAD modelling

Renewable Integration: PV · Wind · BESS

Up to 400kV — AIS & GIS Substations

Complete substation engineering across electrical, civil and structural disciplines.

PRELIMINARY DESIGN

- DPR
- Feasibility Report
- Conceptual Drawings
- Tendering
- Substation Layouts
- Control Schematics

ELECTRICAL DESIGN

- Single Line Diagrams (SLD)
- Design Specifications
- Equipment Layout
- Earthing Calculations and layout
- Cable Schedule
- Lightning Protection Layout
- CT/PT Sizing Calculation
- Battery & Battery Charger sizing Calculation
- Conductor Sizing Calculation
- Relay Setting Calculation

CIVIL DESIGN

- MCR design calculation
- MCR Architecture drawing
- Switchyard foundation layout
- Power transformer foundation
- Breaker foundation
- Gantry Foundation drawing & calculation
- LA Foundation drawing & calculation
- CT, PT, CVT foundation drawing & calculation
- Drain Layout & Design calculation
- Switchyard Road layout

STRUCTURE DESIGN

- BPI Structure drawing
- LM Structure drawings
- Gantry Structure drawing
- CT/PT & CVT Structure drawing
- HBPI Structure drawing
- Isolator Structure drawing
- LA Foundation drawing
- Sag tension calculation
- Short circuit force calculation
- String efficiency
- Spacer profile

Engineering philosophy: clear layouts, equipment reliability, constructability, safety and approval-ready documentation.

Civil · Structural · Architectural · Mechanical Utilities · BIM

A single integrated design environment for complex industrial and energy projects.

CIVIL / ARCHITECTURE

- Plans, elevations & layouts
- 3D models/walkthroughs
- Interiors/finishes
- Roads/drainage/sewage
- Rainwater harvesting
- Green building compliance

STRUCTURAL DESIGN

- RCC & steel structures
- TEKLA fabrication drawings
- Specialized foundations
- Retrofitting
- PEB buildings
- Conveyor galleries
- Pipe/cable racks
- Proof checking

MECHANICAL UTILITIES

- Firefighting as per NBC/TAC/NFPA
- Water demand
- Hydrant/sprinkler
- MVW/HVW spray
- Energen
- Detection & alarm

HVAC / PIPING / CFD

ISHRAE HVAC · heat load · duct sizing · clean rooms · basic/detailed piping · stress analysis · pipe supports · FEA · CFD analysis

Industry-Leading Platforms for Precision Engineering

Multi-platform capability for accurate studies, design, modelling and technical reporting.

ETAP

LF · SC · Relay · Arc flash · Motor starting · Harmonics

PSCAD

EMT · LVRT/HVRT · Insulation coordination · inverter models

PSS®E

Dynamic stability · FRT · frequency response · planning

DlgSILENT

PowerFactory · G5/5 · protection · fault analysis

CDEGS

Earthing · EMC · TGPR · IEEE 80 / IS 3043

AutoCAD

SLD · layouts · details · cable schedules

SKM

SC · coordination · TCC curves

PVsyst

Solar yield · shading · inverter optimization

STAAD.Pro

Gantry · foundations · structural analysis

Bentley Suite

Civil · BIM · infrastructure detailing

DIALux

Lighting calculations

CymCap

Cable Sizing

Trusted Across Energy & Infrastructure

Sector-focused engineering for high-value, high-reliability assets.

Renewable & E-Mobility: solar, wind, BESS, EV charging

Data Centres: Google, Amazon, Microsoft, Samsung-Google exposure

Power & Utilities: NTPC-GE JV, PGCIL cable schedules, state utility experience

Thermal Power: coal, gas, co-gen, FGD systems

Steel & Manufacturing: industrial facilities, print packaging, semiconductor

Oil & Gas, Process, Chemical & Pharma: utilities and plant power systems

EPC & OEM Partners: switchgear OEMs and EPC contractors

Government Bodies: approval-ready documentation and standards compliance

India • Malaysia • United Kingdom • Africa • Global Delivery

Proven experience across utility-scale renewables, data centres, substations and industrial power systems.

3 GW+

Renewable / hybrid capacity exposure

33–400kV

Substation / switchyard engineering

60+

Projects across studies and design

5+

Countries served

Global delivery model

Remote engineering, international grid code studies, client-specific report formats, fast revision cycles and coordination with EPC/OEM teams.

Government-ready documentation

Structured design basis, calculations, compliance matrices, standards mapping, QA checks and approval-oriented presentations.

High-value infrastructure focus

Utility-scale renewable plants, HV/EHV substations, data centres, BESS, industrial systems and protection coordination.

BESS — Battery Energy Storage Systems

Utility-scale storage engineering backed by studies, design and grid compliance validation.

100MW / 200MWh BESS Plant — Kutch, Gujarat Baseline Management • 2025

Design consultancy for utility-scale grid-connected BESS plant covering electrical, civil and structural detailed engineering.

50MW / 100MWh BESS Plant (NTPC) — Telangana GL-Enertech Solutions Private Limited • 2026

Power system studies and electrical detailed design: load flow, short circuit, dynamic stability, LVRT/HVRT, frequency response, reactive power validation, relay coordination, power quality, harmonics, DC injection, voltage flicker, PSS/E & PSCAD simulations, SLD, equipment sizing, cable engineering, panel design and LT auxiliary design.

200MW / 400MWh BESS Plant (NTPC) — Barh, Bihar NGSL • 2026

Design consultancy for utility-scale grid-connected BESS plant covering electrical, civil and structural detailed engineering.

BESS

Design + Studies

PSCAD

EMT simulation

PSS®E

Dynamic studies

LVRT/HVRT

Grid code validation

PQ

Harmonics • flicker • DC injection

PGCIL · 400kV Leadership · HV/EHV Substation Capability

Experience and leadership credentials aligned with utility, EPC and government-facing submissions.

400kV leadership experience by core engineering team

- 400/220/132/33kV GIS Substation — BSPTCL, Bakhtiyarpur, Bihar
- 400/220/132kV AIS Substation — UPPTCL, Jaunpur, UP
- 400kV AIS Substation — PSPTCL, Bahman Singh Jassa, Punjab
- 33/400kV AIS Substation — GETCO, Ramsan, Gujarat

PGCIL cable schedule assignments

SS129, KPS2 · SS129, Pavagada · SS129, Rajgarh · SS129, Jhatikara — cable schedule preparation for Power Grid Corporation projects.

High-value utility packages

220/33kV Solapur and Latur substations · Resolven-Mandsaur 220kV Substation MP · SCF calculations · 400kV AIS relay setting calculations for Waaree RTL 700MW Solapur.

“400kV Substation Projects — Executed at Leadership Level by Core Engineering Team.”

Earthing · Cable Schedules · SCF · Lightning Risk · CDEGS

Focused deliverables that strengthen system safety, constructability and approval outcomes.

CDEGS Earthing Design

SunSure Bikaner-3 · SunSure Bikaner-4 · ArcelorMittal Bikaner · UPC Bijapur Karnataka —
33/220kV AIS substations

Cable Engineering

Cable rating calculations · pulling calculations · routing · cable schedules for HV/MV/LV
and PGCIL SS129 assignments

Safety & Compliance

Arc Flash IEEE 1584 · lightning protection risk assessment · earthing step/touch potential
· SCF calculations

Protection Engineering

Relay setting calculations · line differential · distance backup · bus coupler/section ·
transformer and generator protection

Simulation-Driven Design

Load flow · short circuit · transient stability · harmonics · PQ · DC injection · voltage
flicker · insulation coordination

Pre-bid & Tender Support

DPR · feasibility · conceptual design · cost and design basis support for EPC/OEM bid
stages

Trusted by Industry Leaders — India & Globally

Selected clients and partner organizations across energy, infrastructure and industrial sectors.

INDIA

NTPC GE Power Services (NGSL)
 CG Power & Industrial Solutions
 ISGEC Heavy Engineering
 Hartek Power Pvt. Ltd.
 Juniper Green Energy
 Welspun New Energy / EDF
 Prozeal Green Energy
 Afrima Management (PMC)
 Kintech Synergy
 Emergible Consulting Services
 GL-Enertech Solutions
 Fourth Partner Energy
 Wire Consultancy
 OHM Mobility (Ashok Leyland)
 Aakash Educational Services
 QQ Engineering
 Armoureds Projects Pvt. Ltd.
 Asbri Energy & Enviro Tech.
 Urja Consulting Engineers
 BSG Solar Eco Energy
 VNT India
 IR Class Systems & Solutions
 Kwaliti Offset Printers
 RSE Projects Pvt. Ltd.

INTERNATIONAL

KCNR Solutions Sdn. Bhd. — Malaysia
 Afrima Consulting Engineer Sdn. Bhd. — Malaysia
 Voltics Engineering Sdn. Bhd. — Malaysia
 Afrima Project Management Consulting — India/ Malaysia / UK
 VSS Power Engineering Services Ltd. — United Kingdom
 GL-Enertech Solutions — International

CLIENT PROMISE

Senior-led delivery · rapid response · client-specific formats · confidentiality · CAT-A / approval-ready documentation.

Senior Engineers. Deep Domain. Global Mindset.

A leadership-led delivery model combining strategy, technical precision and seamless coordination.

Arvind Singh Bhadoria
CEO & Founder

Project Leadership · Design Engineering Coordination · Operations Management ·
Business Development · Client & Key Account Management

Darshit Vyas
CTO & Co-founder

International studies · Power system studies · Substation design · Grid compliance ·
PSS/E · ETAP · PSCAD · 3GW+ project engineering exposure · Relay coordination · Arc
flash · Data centers · BESS · Industrial plant studies

Gaurav Gupta
Engineering Head — Civil

Substation civil design · foundations · MCR layout · drainage · switchyard road design

Saurabh Arora
Engineering Head — Structure

AIS structure design · gantry · equipment structures · sag-tension · short circuit force
calculations

40+

Engineers

4

Department Heads

15+

Average years experience

Structured. Traceable. Approval-Ready.

A disciplined workflow designed for EPC, utility, government and international review cycles.

01

Kick-off & Data Validation

Scope freeze · input register · gaps/RFI list · study/design basis

02

Model / Design Development

ETAP/PSS/E/PSCAD/DIgSI LENT/CDEGS models · drawings · calculations

03

Engineering Review

Peer review · standards compliance · interfaces · constructability checks

04

Client Submission

Technical report · calculation annexures · drawing packs · response to comments

05

Approval Support

Revision cycles · meeting support · evidence-based clarification · CAT-A readiness

Quality, Safety & Compliance: IEC · IEEE · CEA · UK EREC G99 / G5/5 · P28/P29 · Malaysian TNB / SESB · NFPA/NBC/TAC · ISHRAE · IS 3043

Precision · Speed · Trust · International Readiness

A premium engineering partner for high-value infrastructure and time-critical approvals.

Multi-Software Mastery

ETAP · PSS/E · PSCAD · DIgSILENT · CDEGS · PVsyst · STAAD.Pro · DIALux

International Grid Codes

Indian CEA · UK EREC G99/G5/5 · Malaysian TNB/SESB · IEEE · IEC

Proven at Scale

3GW+ renewable capacity exposure · projects from 21MWp to 700MW

Single-Point Accountability

Senior technical lead ownership from kick-off to approval

Quality Assured

Peer-reviewed deliverables · client-specific formats · NDA-protected

Premium Value

International-standard deliverables with competitive and transparent engagement model

Built for EPCs, developers, utilities, industrial clients, investors and government-facing review teams.

LET'S BUILD SOMETHING POWERFUL TOGETHER.

Reach out — we respond within 24 hours.

+91-9555369246 / +91-9310739954

Arvind.Bhadoria@newatt.co.in

Darshit.vyas@newatt.co.in

Enquiry@newatt.co.in

www.newatt.co.in

Office no. 506, 5th Floor, K10 Grand,
Sarabhai Campus, Subhanpura,
Vadodara – 390023, Gujarat, India

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