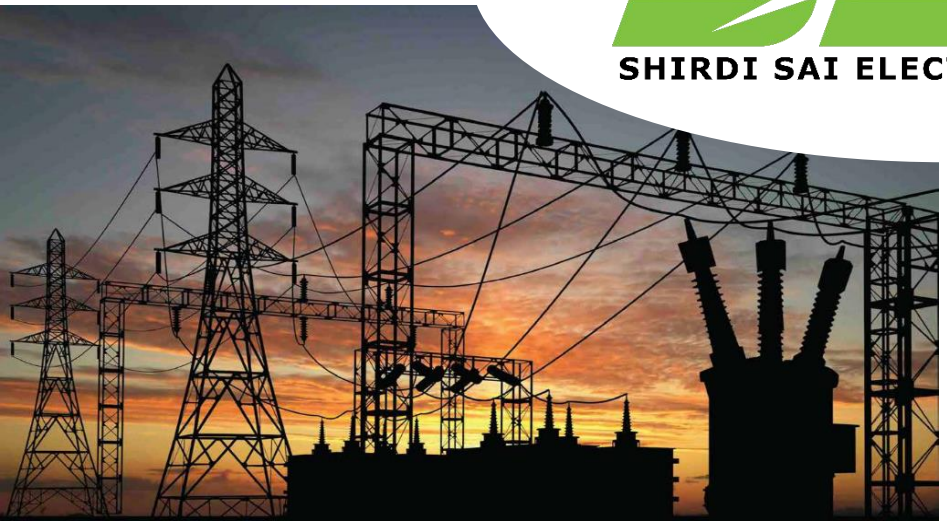
SSE®

SHIRDI SAI ELECTRICALS LTD



SSE VISION & MISSION

Vision

To build a sustainable organization that cater to the emerging needs of Energy sector

Mission

Focus on product & process innovation to meet customers expectation on sustainable basis

- Leveraging our competence, experience and expertise for safer, reliable and cost effective solutions
- Investing in People, Technology and Processes
- Lead by action on social responsibility

EVOLUTION OF SSE

1994 — Services

Established as a transformer servicing unit

2000 — EPC

Venture into T & D Projects

2004 — Manufacturing

Transformer Manufacturing up to 66 kV

2011 — Go Green

Emphasis on Energy Efficiency

- Amorphous
- HVDS

2020 — Expansion

Acquired Indo Tech Transformers from Prolec GE

Acquired GE Naini Facilities

2021 — Renewables

Solar Modules
(Polysilicon to Module)

EPC/Dev of Hydro and Solar Projects

BUSINESS VERTICALS

Transformers Manufacturing

KADAPA PLANT

Transformers
upto 20 MVA, 66 kV Class

INDOTECH PLANT
(Listed Subsidiary)

Power Transformers
upto 200 MVA,220 kV Class

NAINI PLANT

EHV Transformers
upto 500 MVA,400 kV Class

Services

ASSET MANAGEMENT
Repairs & Refurbishment

EPC/Turnkey Projects

- Rural Electrification, Substation Erection
- High Voltage Distribution System / System Strengthening
- Smart Meter Projects

Renewables

- Solar PV Modules
- Solar & Wind Projects
- Hydro Projects

SSEL GROWTH STRATEGY – NURTURING VISION

01 TRANSFORMERS DIVISION

- Backward integration
- Automation
- Product expansion
- Inorganic growth
- Capacity Expansion
- Exports

02 EPC DIVISION

- Rural Electrification
- Substation Erection
- System strengthening works
- New line Erection works

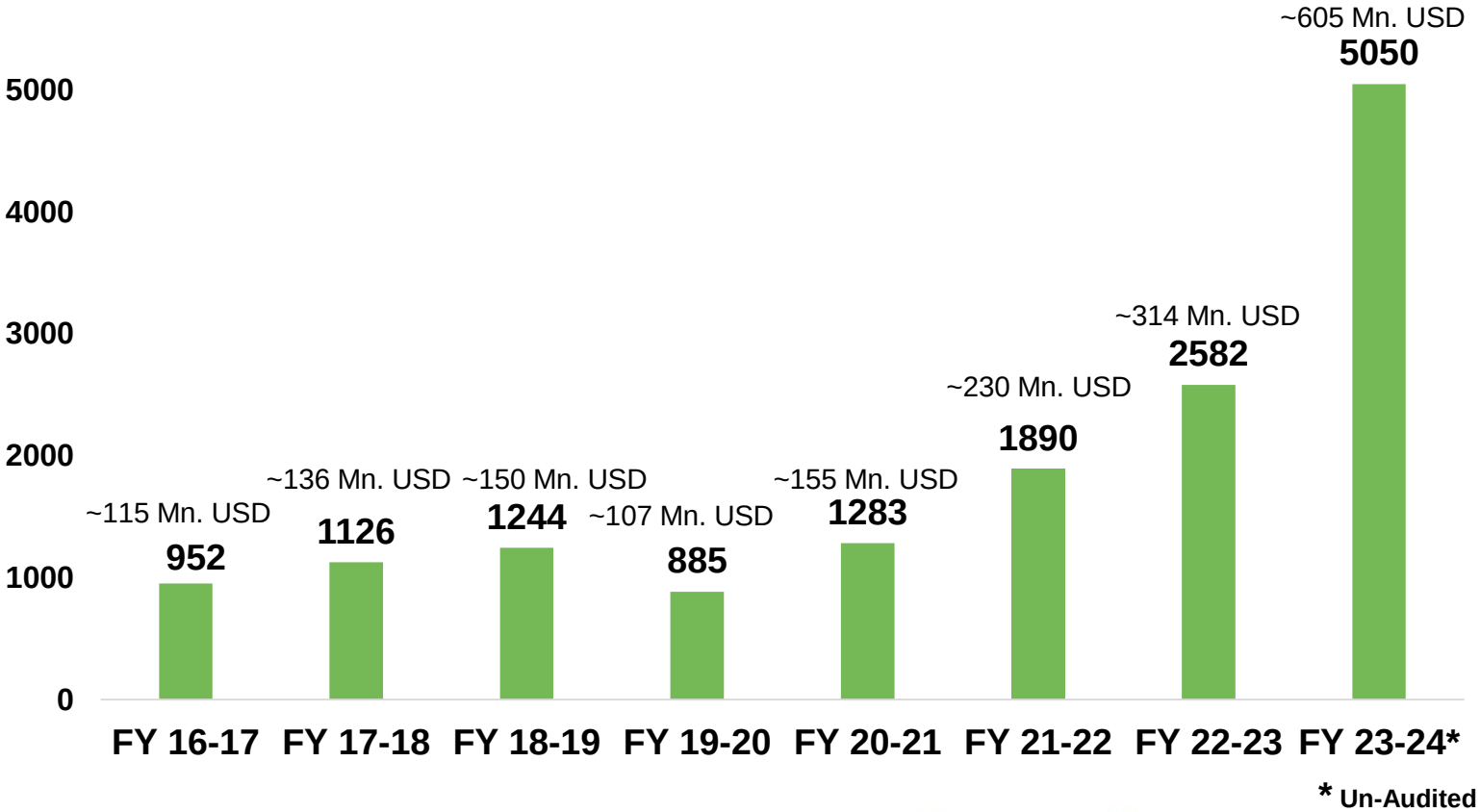
03 OTHER PROJECTS

- Smart Meters
- Railway Projects
- EV segment
- Inverters

04 RENEWABLES/GREEN ENERGY DIVISION

- Hydro Projects
- Solar Module Integrated Mfg. Facility
- Dev. and Operation of Solar and Wind Projects

FINANCIAL PERFORMANCE OF SSE (Consolidated)



* Un-Audited

MANUFACTURING DIVISION

OVERVIEW

- Founded in **1994**
- Production Capacity - **34,000 MVA / annum** (Consolidated Capacity)
- Turnover – **1600+ Cr. INR** (~194 Mn. USD)
- Employees - **2,500+**; Land area - **~100 acres**
- Installed **2 MW** Rooftop Solar & **450 KW** Windmill – for captive consumption
- **NABL** Accredited Test Labs. **ISO:9001 & ISO 14001** Certified.
- Largest manufacturer in India for **Energy Efficient Amorphous** Transformers
- **Acquired Indo Tech Transformers**, Chennai from **PROLECGE**
- **Acquired** power transformer manufacturing unit of **GE Naini**, Uttar Pradesh
- **Star Export House** Status – from Govt. of India.

PRODUCT PROFILE

Distribution Transformers	Up to 5 MVA / 33 kV
Power Transformers	Up to 200 MVA / 220 kV
EHV Transformers	Up to 500 MVA / 400 kV
Special Application Transformers	Transformers for Solar & Wind applications

KEY HIGHLIGHTS

Backward Integration
Key components of transformers like Core, Conductor & Tank are processed in-house

Automation
All the critical manufacturing processes are automated

Economies of Scale & Huge installed Base
Huge Manufacturing capacity of 360 Transformers / 90 MVA per day. 500,000+ Transformers supplied

Consistent High Quality
Automation, Backward Integration & stringent quality standards provides consistent high quality

Exports
Exports to 30+ Countries

Technological Partnership
Technology partnership with Hitachi Metals

SSE (GROUP) PRODUCTS ON GLOBE

For Smart Sustainable Energy

OVERVIEW

- More than 100 substations up to 110 kV
- Market Leader in executing HVDS (High Voltage Distribution System) projects
- Commissioned more than 1,00,000 CKMS of LT & HT Lines
- Multiple subcontractors & Pan India vendor base.

OTHER PROJECTS

- Smart meters project – deployment of 1,800,000 agricultural smart meters

SOLAR AND WIND PARKS

- Selected Manufacturer by MNRE for setting up 4 GW of Energy Efficient Solar PV Modules (Polysilicon to Module) under PLI Tranche-1 by of GOI.
- 4 GW fully Integrated Polysilicon to Module manufacturing facility in pipeline, to realise vision of Atmanirbhar Bharat.
- Signed MoU with Govt. of Rajasthan for development of 4 GW of Solar parks.

HYDRO SEGMENT

- Secured first Hydro Project of 2 * 115 MW Lower Sileru on EPC mode with BHEL as MoU partner
- Jointly bidding for multiple large hydro projects in association with Andritz & AFCONS.

SUPPLY

Transformers Spares

SERVICE

On site support.

Repairs at Factory.

Emergency support.

Transformers Installation, Testing & Commissioning.

CONSULTANCY

Failure Analysis.

Technical Assistance in Design, Specification.

New Vendor/Product Development.

CUSTOMER TRAINING

On Site Training

Training at Factory

CSR

EDUCATION

- Special Study Camps for students.
- Distributed Bicycles, Books & Bags to economically backward students.
- Sponsoring Akshaya Vidya Centers in slum areas.

LIVELIHOOD

- Skill development programs for unemployed youth.

ORGANIC FARMING

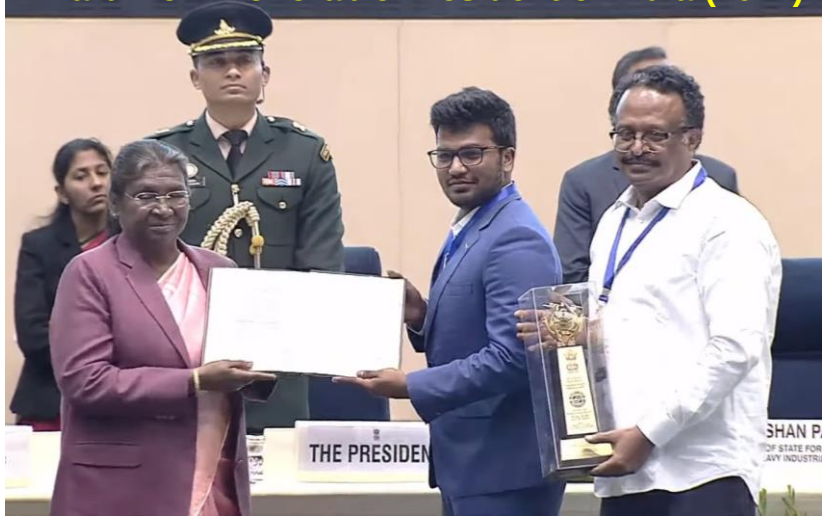
- Trained Farmers in Organic farming, with the support of CBWE.
- Formed 30 Farmer clubs.

SUSTAINABILITY

- 20% of energy used in our factories is from Renewable Sources.
- Carbon Emissions saved so far 2960 Tons CO_2 (and counting).

AWARDS AND ACHIEVEMENTS

Award from Honorable President of India (2022)



Award from Energy Minister of India (2014)

Two time Recipient of **NATIONAL ENERGY CONSERVATION AWARD** - for achievement in Energy Conservation, Conferred by Government of INDIA, for Manufacture of BEE Star labelled Distribution Transformers

Yet, our biggest award is 100% satisfaction of all our customers...

DISTRIBUTION & POWER TRANSFORMERS
Kadapa Plant

SHIRDI SAI ELECTRICALS LTD.

SINGLE PHASE TRANSFORMERS

THREE PHASE DISTRIBUTION

CONVENTIONAL TYPE DISTRIBUTION TRANSFORMERS (CRGO/AMORPHOUS)
Single Phase upto 1670 kVA, 33 kV class
Three Phase upto 3000 kVA, 33 kV class

CSP TYPE DISTRIBUTION TRANSFORMERS (CRGO/AMORPHOUS)
Single Phase upto 167 kVA, 11 kV class
Three Phase upto 315 kVA, 11 kV class

TRANSFORMERS WITH CORRUGATED PANELS
upto 2500 kVA, 33 kV class

SPECIAL APPLICATION TRANSFORMERS
upto 1500 kVA, 33 kV class

*We also offer **CE** Compliant Transformers*

THREE PHASE POWER

POWER TRANSFORMERS
upto 20000 kVA, 66 kV class

*We also offer **CE** Compliant Transformers*

TYPE TESTED

- 188 Designs Type Tested
- 157 Designs Short Circuit Tested

Single Phase - 1670 kVA in 34.5 kV Class
Three Phase - 2500 kVA in 11 kV Class
Three Phase - 12500 kVA in 33 kV Class

264 Types* of BIS Certified Transformers

* Classification based on Core/Conductor Material, Sealed/Conservator & Energy Efficiency

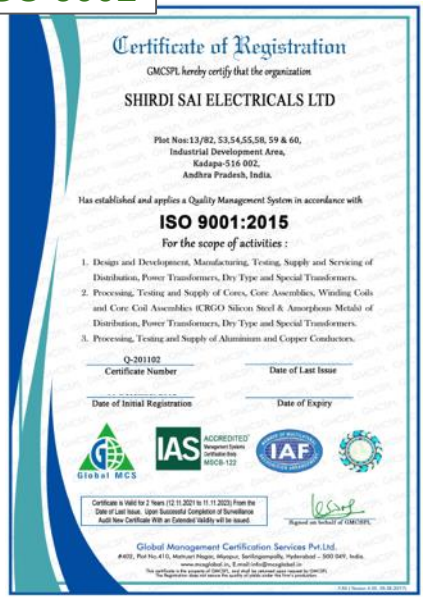
Entire range of BIS for 11 KV Class and upto 200 kVA for 33 KV Class

3 Designs Type Tested and SC tested at KEMA (CESI)

BIS – Bureau of Indian Standards

OUR CERTIFICATIONS

ISO 9001



Certificate of Registration

GMCSPL hereby certify that the organization

SHIRDI SAI ELECTRICALS LTD

Plot Nos:13/82, 53,54,55,58, 59 & 60,
Industrial Development Area,
Kadapa-516 002,
Andhra Pradesh, India.

Has established and applies a Quality Management System in accordance with

ISO 9001:2015

For the scope of activities :

1. Design and Development, Manufacturing, Testing, Supply and Servicing of Distribution, Power Transformers, Dry Type and Special Transformers.
2. Processing, Testing and Supply of Cores, Core Assemblies, Winding Coils and Core Coil Assemblies (CRGO Silicon Steel & Amorphous Metals) of Distribution, Power Transformers, Dry Type and Special Transformers.
3. Processing, Testing and Supply of Aluminium and Copper Conductors.

Q-201102 — Certificate Number

Date of Last Issue

Date of Initial Registration

Date of Expiry

Global MCS · IAS ACCREDITED MSCB-122 · IAF

Certificate is Valid for 2 Years (12.11.2021 to 11.11.2023) From the Date of Last Issue. Upon Successful Completion of Surveillance Audit New Certificate With an Extended Validity will be issued.

Signed on behalf of GMCSPL

Global Management Certification Services Pvt.Ltd.

ISO 14001

Certificate of Registration

GMCSPL hereby certify that the organization

SHIRDI SAI ELECTRICALS LTD

Plot Nos:13/82, 53,54,55,58, 59 & 60,
Industrial Development Area,
Kadapa-516 002,
Andhra Pradesh, India.

Has established and applies an Environmental Management System in accordance with

ISO 14001:2015

For the scope of activities :

1. Design and Development, Manufacturing, Testing, Supply and Servicing of Distribution, Power Transformers, Dry Type and Special Transformers.
2. Processing, Testing and Supply of Cores, Core Assemblies, Winding Coils and Core Coil Assemblies (CRGO Silicon Steel & Amorphous Metals) of Distribution, Power Transformers, Dry Type and Special Transformers.
3. Processing, Testing and Supply of Aluminium and Copper Conductors.

E-191101 — Certificate Number

Date of Last Issue

Date of Initial Registration

Date of Expiry

Global MCS · IAS ACCREDITED MSCB-122 · IAF

Certificate is Valid for 1 Year (12.11.2021 to 11.11.2022) From the Date of Last Issue. Upon Successful Completion of Re-Certification Audit New Certificate With an Extended Validity will be issued.

Signed on behalf of GMCSPL

Global Management Certification Services Pvt.Ltd.

NABL Accredited Lab

National Accreditation Board for Testing and Calibration Laboratories

NABL

CERTIFICATE OF ACCREDITATION

UNIVERSAL TESTING LABORATORIES, SHIRDI SAI ELECTRICALS LIMITED

has been assessed and accredited in accordance with the standard

ISO/IEC 17025:2017

"General Requirements for the Competence of Testing & Calibration Laboratories"

for its facilities at

PLOT NOS: 13/82, 53, 54, 55, 58, 59 & 60, INDUSTRIAL DEVELOPMENT AREA, CUDDAPAH, Y.S.R., ANDHRA PRADESH, INDIA

in the field of

TESTING

Certificate Number: TC-9139

Issue Date: 01/12/2020 — Valid Until:

This certificate remains valid for the Scope of Accreditation as specified in the annexure subject to continued satisfactory compliance to the above standard & the relevant requirements of NABL.
(To see the scope of accreditation of this laboratory, you may also visit NABL website www.nabl-india.org)

Name of Legal Identity : SHIRDI SAI ELECTRICALS LIMITED

Signed for and on behalf of NABL

N. Venkateswaran
Chief Executive Officer

Star Export House

भारत सरकार

GOVERNMENT OF INDIA

वाणिज्य और उद्योग मंत्रालय

MINISTRY OF COMMERCE & INDUSTRY

विदेश व्यापार महानिदेशालय

DIRECTORATE GENERAL OF FOREIGN TRADE

मान्यता प्रमाण पत्र

Certificate of Recognition

एक सितारा निर्यात भवन

One Star Export House

मेसर्स SHIRDI SAI ELECTRICALS LIMITED

(आई ई सी 0911027637 और आयकर पैन AAOCS9992C)

को विदेश व्यापार नीति, 2015-2020 के प्रावधानों के अनुसार एक सितारा निर्यात सदन का स्तर प्रदान किया जाता है । यह प्रमाण पत्र, प्रक्रिया पुस्तक(2015-2020) के पैरा 3.20(बी) में दी गयी शर्तों के निहित 5 वर्षों की अवधि के लिए दिनांक 07/11/2022 से 07/11/2027 तक वैध होगा।

M/s SHIRDI SAI ELECTRICALS LIMITED

(IEC 0911027637 and Income Tax PAN AAOCS9992C)

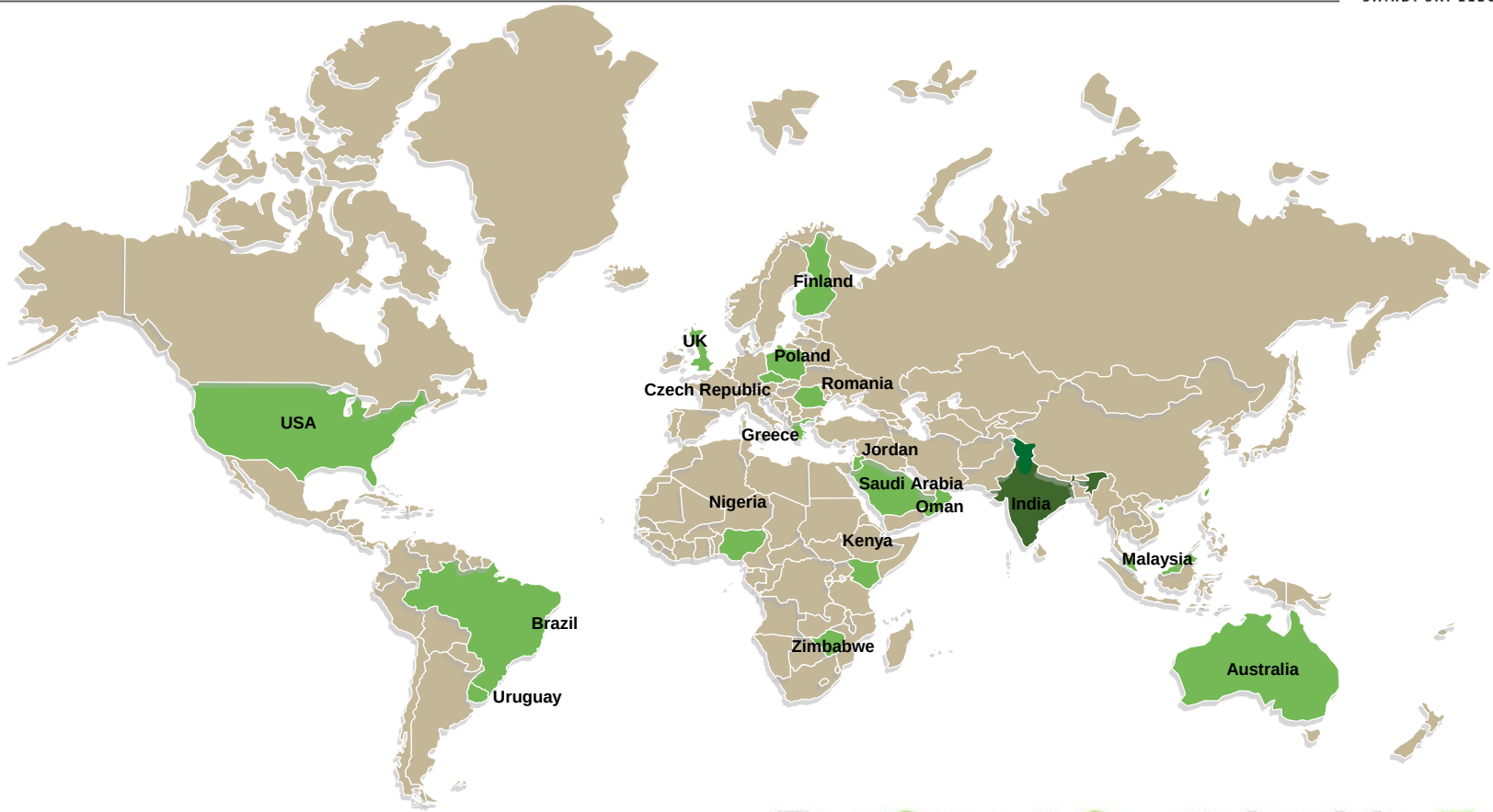
are hereby accorded the status of One Star Export House in accordance with the provisions of the Foreign Trade Policy, 2015-2020. This Certificate is valid for a period of 5 years effective from 07/11/2022 to 07/11/2027 subject to the conditions prescribed in Para 3.20(b) of the Hand Book of Procedures (2015-2020).

तारीख /Date 23/11/2022 — S.B.S REDDY

स्थान /Place TELANGANA — Additional DGFT

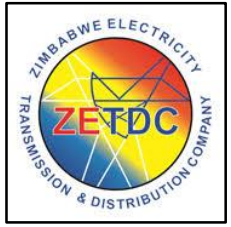
फाइल (File No.) HYDSTATAPPLY00000093AM23

SSE (Kadapa Plant) PRODUCTS ON GLOBE



For Smart Sustainable Energy

SSE MAJOR CLIENTS



CRGO SLITTING

Automatic Slitting & Cutting line

AMORPHOUS CORE FORMING

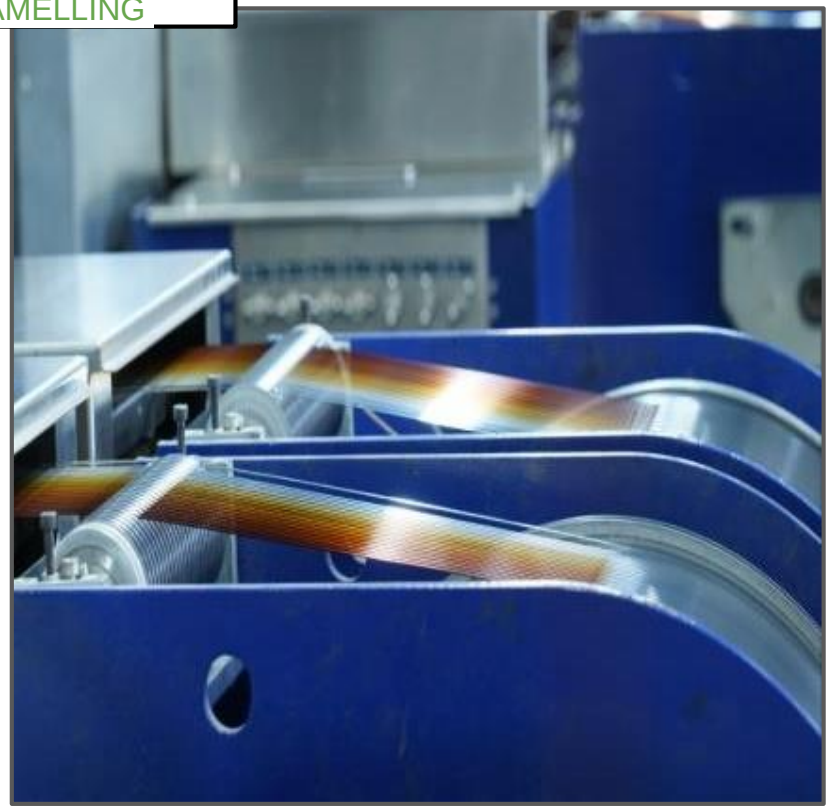
CRGO CORE FORMING

BACKWARD INTEGRATED FACILITIES - CONDUCTOR

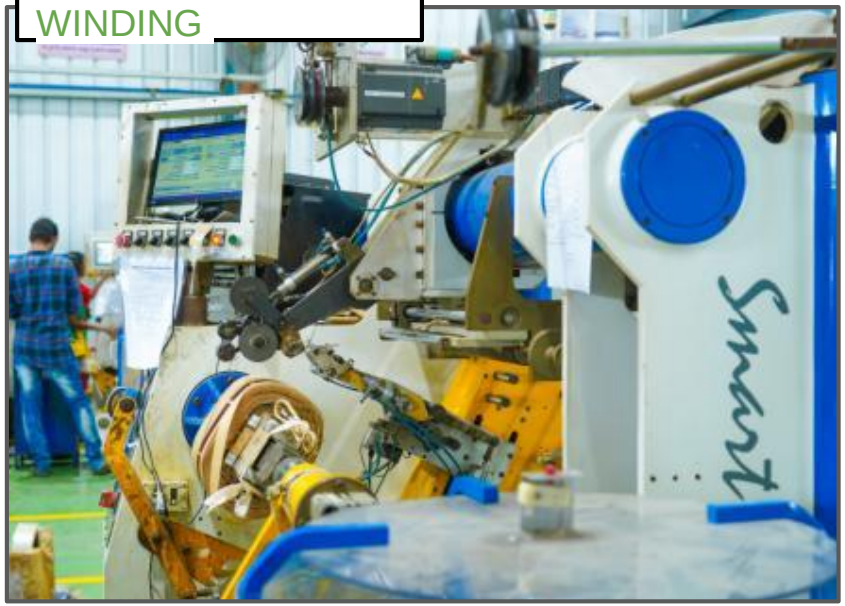
HORIZONTAL WIRE DRAWING & ENAMELLING

DPC MACHINE

ENAMELLING



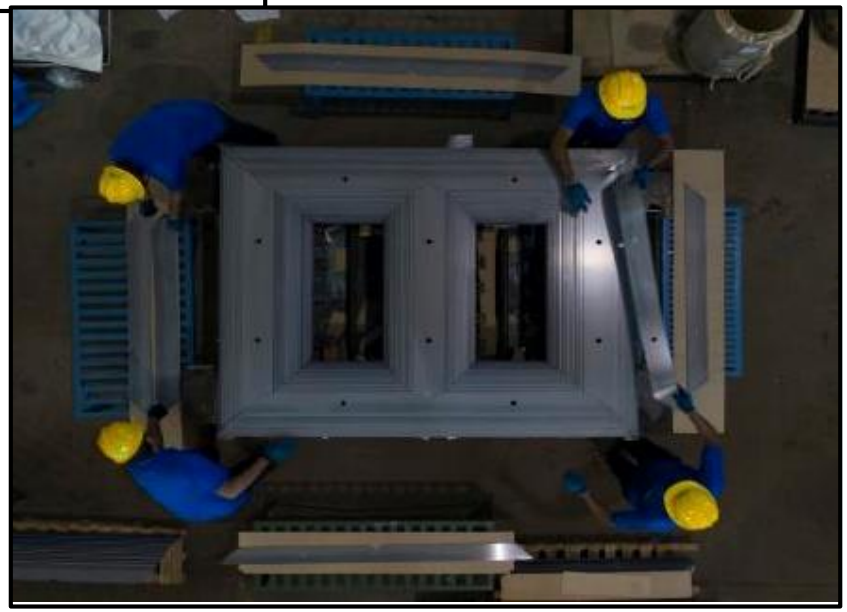
FULLY AUTOMATED WINDING



FOIL WINDING

PTR WINDING

PTR CORE



CCA

OVEN

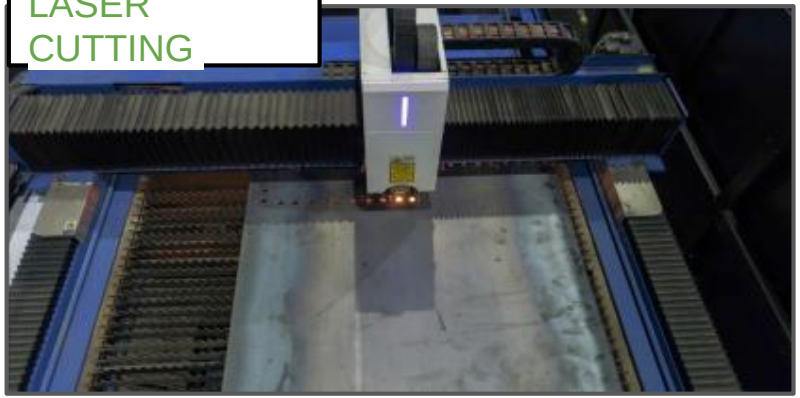
BACKWARD INTEGRATED FACILITIES - FABRICATION

FULLY AUTOMATED BENDING

FULLY AUTOMATED WELDING

CORRUGATION MACHINE

LASER CUTTING

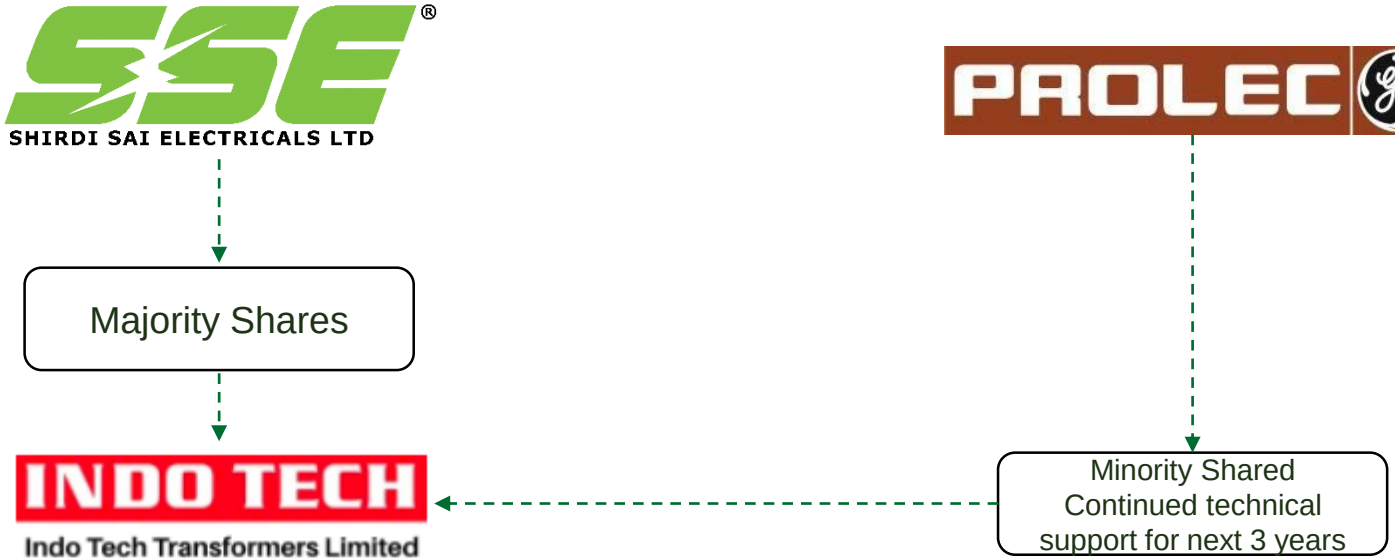


- **25+ Years Experience**, with installed base of 500,000+ Transformers.
- Huge **Manufacturing Capacity**, second in the country, of 300 Transformers per day.
- **Backward Integrated facility**, giving us edge in terms of Cost, Quality & Timely Deliveries.
- Huge investments in **Automation**, ensuring consistency in quality and more precision in designs.
- **Efficient** Manufacturing **Processes**, reducing production time and ensuring quality.
- **In house Design software** to optimize life cycle cost

Our Products are designed for

POWER TRANSFORMERS INDOTECH PLANT

SHIRDI SAI ELECTRICALS LIMITED acquired controlling stake in INDO TECH TRANSFORMERS LIMITED (ITTL) from PROLECGE in September 2020.



- Established in **1976**
- Manufacturing facilities in **Kanchipuram (30 acres)** and **Thirumazhisai (6 acres)** in Chennai, India
- **ISO 9001, 14001 & 45001** certified
- Competitive manufacturing base and skilled workforce of **430 employees**
- Manufacturing Distribution, Power and Skid-Mounted Sub-station (SMS) Transformers
- Manufacturing Capacity of **7400 MVA per annum**
- Short Circuit Tested **100 MVA, 230 kV class**
- **NABL** Certified Test Lab
- For Power Transformers consistently "**100% On-time delivery**" achieved
- Modern facilities, expansion capability and state of the art equipment

INDO TECH TRANSFORMERS LIMITED - HISTORY

1975	Distribution Transformer operation started in Saidapet and Palakkad
1997	Set up Thirumazhisai plant and started manufacture of 110, 132kV Power Transformers
1998	First Mobile transformer export to US & Canada
2001	Manufactured the first 230kV transformers for Florida Power Corp. USA through Mobile Source Ind.
2006	Manufactured first 100MVA, 230kV Class transformer to Tamil Nadu Electricity Board
2007	Setting up of an Open Ventilated Dry Type Transformer plant in technical collaboration with DuPont
2008	Large Power Transformer plant opened to manufacture transformers up to 160MVA / 220kV
2009	Prolec GE acquires 74.35% of Indo Tech Transformers and took control of operations and administration. Manufactured 2 units 100 MVA for Rajasthan utility.
2010	Starts implementation of business initiatives like TQM, TPS, EHS, etc. Manufacture of two units 160MVA, 220kV for a power utility in Jammu & Kashmir
2010	Product brand is changed to Prolec GE
2011	Entered into 400kV range by executing a 55 MVA Start-up transformer order for an IPP
2014	Launched special drive to make and get various units tested for most stringent short circuit test. 27 units from 100 KVA to 100 MVA got tested OK in first go. A strike rate of 96%.
2015	NABL certification received for test lab

INDO TECH TRANSFORMERS LIMITED - HISTORY

2016	Merging DT & LPT plant at single location at Kanchipuram to bring synergy in to operations.
2017	BIS license obtained for distribution transformers
2018	QMS certification upgraded to 2018 version.
2019	4 Nos. 53.33MVA, 220kV single phase transformers supplied to JKPDD, Jammu & Kashmir
2020	SSEL acquired majority shares of Indo Tech Transformers Limited and Prolec continues with technical support.
2021	Received CII excellence award for EHS (3 star rating).
2021	5 Nos. 40MVA, 66KV class, 2 Nos. 25MVA, 66KV class transformers supplied to Linde AG, Singapore and 2 Nos. 40MVA 20/18KV class transformers supplied to GE Power Ltd Bangladesh.
2021	Company got ISO 14001:2015 EHS certification by implementing best practices for effective environmental management system.
2021	2 Nos. 180MVA, 220KV class, supplied to Continuum, Wind form in India.
2021	Successfully conducted Short Circuit test on 100MVA, 220kV, 80MVA, 132kV & 31.5MVA, 33kV Transformers
2022	Supplied 4 Nos. 105MVA 220/132kV Single phase Auto Transformers and Commissioned 3 Nos. Transformers (Bank of 315MVA) at Nipora Mir Bazar, Srinagar, J&K at JKPD substation
2022	Received CII-EHS Excellence award for 2nd consecutive year (2020&2021)

ITTL CERTIFICATIONS

ISO 9001

TÜV NORD

CERTIFICATE

Management system as per
ISO 9001 : 2015

The Certification Body TÜV NORD CERT GmbH hereby confirms as a result of the audit, assessment and certification decision according to ISO/IEC 17021-1:2015, that the organization

INDO TECH TRANSFORMERS LIMITED
Survey No.153-210, Illuppapattu Village,
Near Rajakulam, Chennai-Bangalore Highway,
Kancheepuram - 631 561, Tamil Nadu,
India

INDO TECH

operates a management system in accordance with the requirements of ISO 9001 : 2015 and will be assessed for conformity within the 3 year term of validity of the certificate.

Scope -

Design, Manufacture, Installation and Service of Power, Distribution & Special Transformers of Capacity from 63 KVA to 315 MVA and upto 400 KV.

Certificate Registration No.44 100 074217
Audit Report No.2.5-155/1999

Valid from 18.09.2022
Valid until 16.09.2025
Initial certification 17.09.2007

Certification Body
at TÜV NORD CERT GmbH

Mumbai, 18.09.2022

TÜV NORD CERT GmbH Am TÜV 1 45307 Essen www.tuev-nord-cert.com

TUV India Pvt. Ltd., 801, Raheja Plaza – 1, L.B.S. Marg, Ghatkopar (W), Mumbai - 400 086, India www.tuv-nord.com/in

IAF DAkkS

ISO 45001

TÜV NORD

CERTIFICATE

Management system as per
ISO 45001 : 2018

In accordance with TÜV NORD CERT procedures, it is hereby certified that

INDO TECH TRANSFORMERS LIMITED
Survey No.153-210, Illuppapattu Village,
P.O.Rajakulam, K.M.64, Chennai-Bangalore Highway,
Kancheepuram Dist. - 631 561, Chennai,
Tamil Nadu,
India

INDO TECH

applies a management system in line with the above standard for the following scope

Design, Manufacture, Installation and Service of Power, Distribution & Special Transformers of Capacity from 63 KVA to 315 MVA and upto 400 KV.

Certificate Registration No. 44 126 21393041
Audit Report No. 2.5-195/1999

Valid from 01.01.2021
Valid until 31.12.2023

Certification Body
at TÜV NORD CERT GmbH

Mumbai, 01.01.2021

This certification was conducted in accordance with the TÜV NORD CERT auditing and certification procedures and is subject to regular Surveillance Audits.

TÜV NORD CERT GmbH Langemarckstrasse 20 45141 Essen www.tuev-nord-cert.com

TUV India Pvt. Ltd., 801, Raheja Plaza – 1, L.B.S. Marg, Ghatkopar (W), Mumbai - 400 086, India www.tuv-nord.com/in

IAF DAkkS

ISO 14001

TÜV NORD

CERTIFICATE

Management system as per
ISO 14001 : 2015

In accordance with TÜV NORD CERT procedures, it is hereby certified that

INDO TECH TRANSFORMERS LIMITED
Survey No.153-210, Illuppapattu Village,
P.O.Rajakulam, K.M.64, Chennai-Bangalore Highway,
Kancheepuram Dist. - 631 561, Chennai,
Tamil Nadu,
India

INDO TECH

applies a management system in line with the above standard for the following scope

Design, Manufacture, Installation and Service of Power, Distribution & Special Transformers of Capacity from 63 KVA to 315 MVA and upto 400 KV.

Certificate Registration No. 44 104 21393041
Audit Report No. 2.5-195/1999

Valid from 01.01.2021
Valid until 31.12.2023

Certification Body
at TÜV NORD CERT GmbH

Mumbai, 01.01.2021

This certification was conducted in accordance with the TÜV NORD CERT auditing and certification procedures and is subject to regular surveillance audits.

TÜV NORD CERT GmbH Langemarckstrasse 20 45141 Essen www.tuev-nord-cert.com

TUV India Pvt. Ltd., 801, Raheja Plaza – 1, L.B.S. Marg, Ghatkopar (W), Mumbai - 400 086, India www.tuv-nord.com/in

IAF DAkkS

NABL Certification

National Accreditation Board for Testing and Calibration Laboratories
(A Constituent Board of Quality Council of India)

NABL QCI

CERTIFICATE OF ACCREDITATION

TRANSFORMER TESTING LABORATORYINDO TECH TRANSFORMERS LIMITED (A UNIT OF PROLEC GE)

has been assessed and accredited in accordance with the standard

ISO/IEC 17025:2017

"General Requirements for the Competence of Testing & Calibration Laboratories"

for its facilities at

S.NO.153-210,ILLUPPATTU VILLGE, RAJAKULAM POST,, KANCHIPURAM, TAMIL NADU, INDIA

in the field of

TESTING

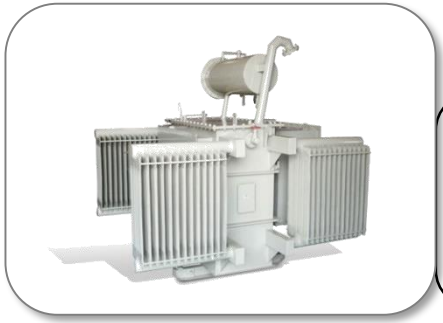
Certificate Number: TC-5622

Issue Date: 24/04/2019 Valid Until: 23/04/2021

This certificate remains valid for the Scope of Accreditation as specified in the annexure subject to continued satisfactory compliance to the above standard & the relevant requirements of NABL.
(To see the scope of accreditation of this laboratory, you may also visit NABL website www.nabl-india.org)

Signed for and on behalf of NABL

N. Venkateswaran
Chief Executive Officer



Distribution transformers

From 250 to 5000 kVA and voltages up to 33 kV for residential, commercial and industrial applications

Power transformers

Above 5 MVA / 33kV to 200 MVA / 230 kV including substation, generation step up, and autotransformers

Renewable energy

250kVA-200 MVA, 11/22/33 -230kV (HV)
Solar, Wind, and Grid Application

Skid mounted substation

Up to 5MVA ,11-33kV (HV)

CORE BUILDING

WINDING

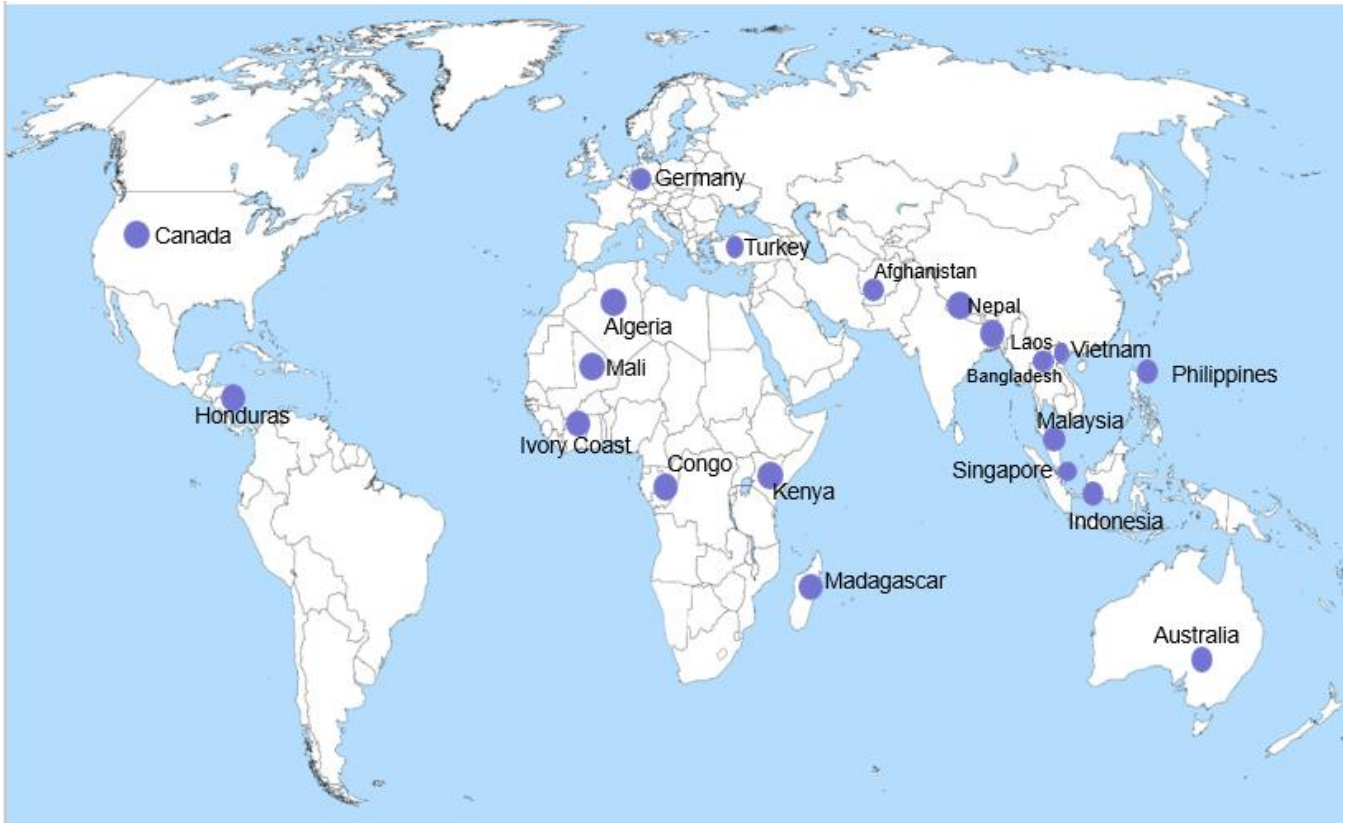
VAPOR PHASE DRYING

PAINT BOOTH

TEST LAB

CCA PLATFORM

INDOTECH PRODUCTS ON GLOBE



For Smart Sustainable Energy

INDOTECH EXPORT SUPPLY RECORD

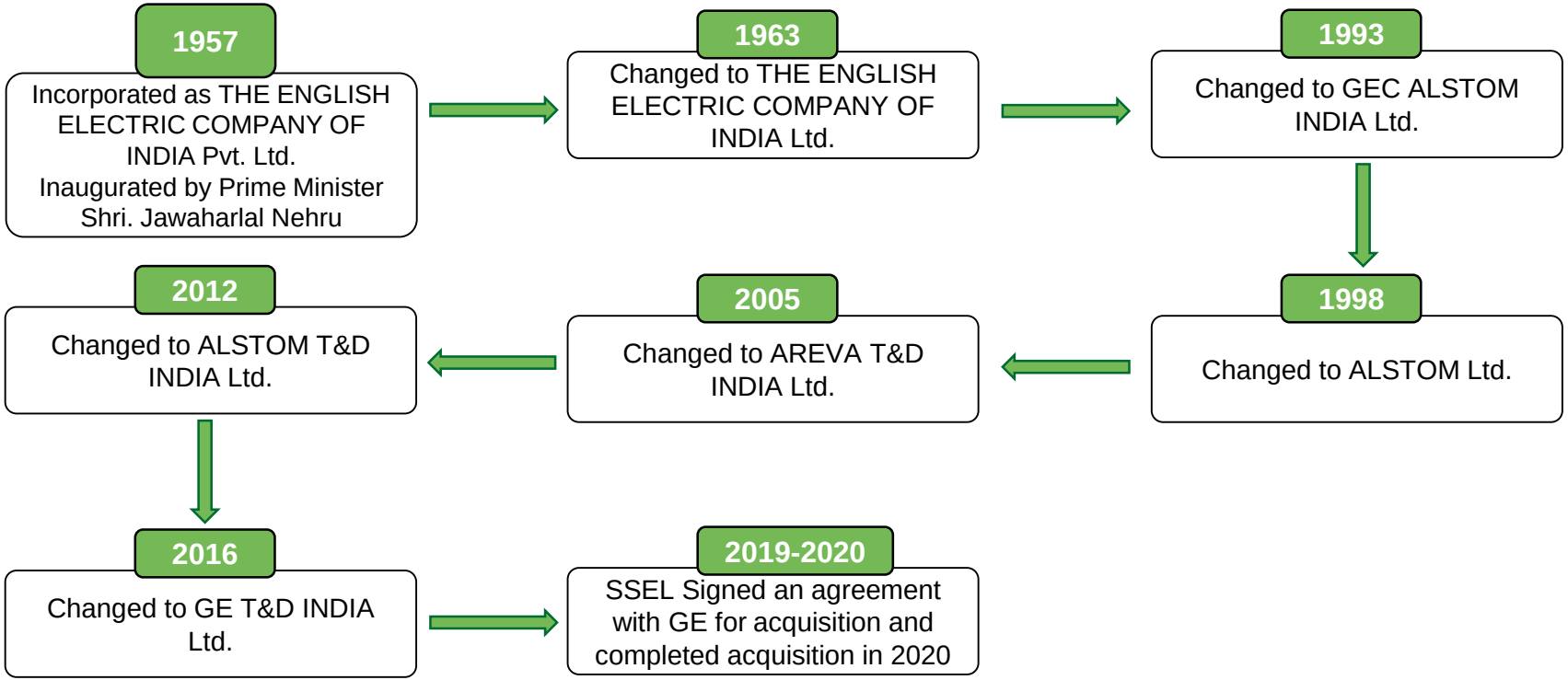
SHIRDI SAI ELECTRICALS LTD.

Customer	Qty	Transformer Rating	Place of Supply	Year of supply
Magnus Power Private Limited	2	1250KVA, 11KV/415V	Bangladesh	2021
Magnus Power Private Limited	2	25MVA, 20/11KV	Bangladesh	2021
HPP Mecamidi	1	8MVA, 33/132kV	Nepal	2021
HPP Mecamidi	1	7.9MVA, 33/6.6kV	Nepal	2021
Mohan Energy Corporation Pvt. Ltd	1	20MVA, 31.5/16.5kV	Mali	2021
Bijao Electric Company S.A	1	1.6MVA,4.16/0.48kV	Honduras	2021
Jaguar Overseas	1	10MVA, 63/15kV	Mali	2021
Jaguar Overseas	1	25MVA, 110/63kV	Mali	2021
GE Power	1	40MVA, 20/6.9kV	Bangladesh	2020
B Fouress (P) Ltd	1	28MVA, 115/10.5 kV	Vietnam	2020
GE Power	1	40MVA, 18/6.9kV	Bangladesh	2020
Mohan Energy Corporation Pvt. Ltd	2	10MVA 66/33kV OLTC	Uganda	2020
LINDE AG Linde Engg	2	25MVA 66/11kV OLTC	Singapore	2020
LINDE AG Linde Engg	5	40MVA 66/11kV OLTC	Singapore	2020
Mecamidi HPP	1	13.2MVA 33/132kV OCTC	Nepal	2020
Flovel Energy India	1	14MVA, 115/6.3kV	Vietnam	2019
Flovel Energy India	2	20MVA 110/11.5kV OCTC	Vietnam	2019
Magnus Power Private Limited	2	50MVA 33/11kV OLTC	Bangladesh	2019
TPSC (India) Pvt. Ltd	10	5.1MVA 132/33kV Single Phase	Nepal	2019
TPSC (India) Pvt. Ltd	1	12.5MVA 33/6.6kV OLTC	Nepal	2019
Neon Energy	2	18MVA 132/11kV OCTC Trafo	Nepal	2019
Mecamidi HPP	1	16MVA 132/33kV OCTC	Nepal	2019
Flovel Energy India	1	3MVA, 66/3.9kV	Philippines	2019
Flovel Energy India	2	8MVA 35/6.3kV OCTC	Vietnam	2019
KEC INTERNATIONAL	1	10MVA 220/20kV OLTC	Afghanistan	2019
TPSC (India) Pvt. Ltd	1	16MVA 132/6.6kV OLTC	Nepal	2019
Flovel Energy India	1	15MVA 132/6.3kV OCTC	Nepal	2018
Flovel Energy India	2	6MVA 6.3/20kV	Indonesia	2018
Flovel Energy India	2	28/35MVA 115/10.5kV	Vietnam	2018
TPSC (India) Pvt. Ltd	1	10MVA 132/6.6kV OLTC	Nepal	2018
Flovel Energy India	1	14MVA, 115/6.3kV	Vietnam	2018
GE Italian Power Controls Srl (ABB)	1	10MVA 34.5/6.6kV	Algeria	2018
RECO	1	13/15MVA 20/11kV	Indonesia	2018
Flovel Energy India	1	11MVA 132/11kV OLTC	Nepal	2018
Neon Energy	7	5.4MVA 11/132kV	Nepal	2018
Flovel Energy India	2	14/19MVA 115/11kV OCTC	Vietnam	2018
PT. Linde	1	2.5MVA, 11/0.433kV	Indonesia	2018
PT. Linde	1	15MVA 30/11kV OCTC	Indonesia	2018
Mecamidi HPP	2	15/18MVA 115/11kV	Laos	2018
LINDE AG Linde Engg	1	15MVA 69/4.16kV OCTC	Philippines	2017
Flovel Energy India	1	25MVA 110/6.3kV OCTC	Vietnam	2017
Flovel Energy India	1	28MVA 115/11kV - OCTC	Vietnam	2017
GE Italian Power Controls Srl	1	630KVA 6.6/0.400kV	Algeria	2016
GE Italian Power Controls Srl	2	2MVA 6.6/0.400kV	Algeria	2016
GE Italian Power Controls Srl	1	7.5MVA 34.5/6.6kV	Algeria	2016
GE Italian Power Controls Srl	1	10MVA 34.5/6.6kV	Algeria	2016
GE Italian Power Controls Srl	2	15MVA 34.5/6.6kV	Algeria	2016
GE Italian Power Controls Srl	2	30MVA 34.5/6.6kV	Algeria	2016
LINDE AG Linde Engg	1	31.5MVA, 34.5/10.5kV	Turkey	2016
Flovel Energy India	1	14MVA, 115/6.3kV	Vietnam	2016
KEC INTERNATIONAL	5	10MVA, 220/20kV -OLTC	Afghanistan	2016
Andritz Hydro Private Ltd	1	10/11.5MVA, 4.16/69kV	Philippines	2015
Group Power Consulting Engg	5	5.5MVA 20/11kV	Madagascar	2015

Customer	Qty	Transformer Rating	Place of Supply	Year of Supply
Angelique International	2	250KVA, 16/0.4KV	Ivory Coast	2014
Angelique International	2	50MVA 90/16.5kV	Ivory Coast	2014
Andritz Hydro Private Ltd	2	5MVA 3.6/3.3kV	Malaysia	2014
Andritz Hydro Private Ltd	2	4MVA 20/6.3kV	Indonesia	2014
Andritz Hydro Private Ltd	2	4.25MVA 20/6.3kV	Indonesia	2014
GE Energy Australia Pty Ltd	1	40/50MVA, 132/33kV	Australia	2013
GE Energy Australia Pty Ltd	1	40/65MVA/11/132kV	Australia	2013
Magnus Power Private Limited	3	47MVA/11/132KV	Bangladesh	2013
Group Power Consulting Engg	1	2MVA/20/.40KV	Madagascar	2013
Group Power Consulting Engg	2	5MVA/6.6/20KV	Madagascar	2013
Group Power Consulting Engg	1	5.5MVA/11/20KV	Madagascar	2013
Group Power Consulting Engg	1	2MVA/20/0.41KV	Madagascar	2013
Group Power Consulting Engg	1	5.5MVA/11/20KV	Madagascar	2013
Group Power Consulting Engg	1	7.5MVA/6.3/20KV	Madagascar	2013
Group Power Consulting Engg	2	7.5MVA/15/20KV	Madagascar	2013
Andritz Hydro Private Ltd	1	20/25MVA, 110/11kv	Vietnam	2013
GE Operations Indonesia	2	3MVA/11/3.4KV	Indonesia	2013
GE Operations Indonesia	2	6.5MVA/11/3.4KV	Indonesia	2013
GE Operations Indonesia	2	24/30MVA/72.5/11/11KV	Indonesia	2013
LINDE AG Linde Engg	1	25MVA/110/11.4 KV	Vietnam	2013
Angelique International	2	24/30MVA, 115/22/11KV	Laos	2013
GE Energy Australia Pty Ltd	2	22KV Earthing TF	Australia	2012
GE Energy Australia Pty Ltd	2	500KVA, 33/11KV	Australia	2012
GE Energy Australia Pty Ltd	2	40/50MVA, 132/11KV	Australia	2012
GE Energy Australia Pty Ltd	3	50/65MVA, 132/11KV	Australia	2012
GE Energy Australia Pty Ltd	1	60MVA, 22/132kV	Australia	2012
GE- Bangladesh	1	133MVA, 230/11.5kV	Bangladesh	2010
ENI-CONGO	2	1250KVA 11.0.42KV	Congo	2008
ENI-CONGO	2	250KVA 11.0.42KV	Congo	2008
ENI-CONGO	1	35MVA 233/11.5KV	Congo	2008
ENI-CONGO	2	16MVA 30/21KV	Congo	2008
ENI-CONGO	1	35/45MVA 220/33KV	Congo	2008
ANGELIQUE	1	40MVA 225/33KV	Mali	2008
ANGELIQUE	1	40MVA 225/33KV	Mali	2008
ANGELIQUE	1	20MVA 33/15KV	Mali	2008
ANGELIQUE	1	20MVA 33/15KV	Mali	2008
ANGELIQUE	1	400KVA 33/0.415KV	Mali	2008
ANGELIQUE	1	400KVA 33/0.415KV	Mali	2008
TOTAL	154			

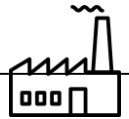
EHV TRANSFORMERS
Naini Plant

NAINI PLANT - HISTORY



Acquisition involves take over of the manufacturing facility of GE Naini to expand in to new regional markets

Manufacturing Facility



Advanced Manufacturing facility located in Naini, Uttar Pradesh, spread over 21.5 acres

PRODUCTS

- Power & EHV Transformers (up to 500 MVA, 400 kV class)
- Special Transformers such as Reactors and Rectifiers

Rationale for Acquisition & Key Highlights

Access to a World-Class Manufacturing Facility

- Operates state of the art manufacturing facilities which produce high quality transformers up to 220 kV
- Manufacturing facility operated by PROLEC GE along with inherited technology and processes

Addition of a New Product-Line

- Will enable a strong foothold in the Power Transformer business globally
- Organic growth in this segment will take a minimum of 3 -4 years to establish

Pan India presence – Power transformers

- This facility will help SSEL consolidate its position

TRANSFORMERS

- 520 MVA, 400/220/33 kV Auto Transformer
- 285 MVA, 400 kV Generator Transformer
- 370MVA, 400 kV Generator Transformer
- 200 MVA, 400/11.5-11.5 kV Three winding Transformer
- 90 MVA,33 kV Furnace Transformer
- 42 MVA,132 kV Traction Transformer
- 188 MVA,220 kV Regulating Transformer

REACTORS

- Up to 125 MVAr, 400 kV

Main Building

Winding Area

Name of Equipment	Qty	Remarks
10 Ton Vertical Winding Machine	6	Nil
25 Ton Vertical Winding machine	3	Nil
15 Ton Horizontal Winding Machine	4	Nil
Vertical Autoclave	3	3800mm Dia x 4000mm Height
DCA Platforms Make: Shandong	3	Ht: 1750mm to 5100mm
CTC Bobbin Inverting Machine	1	Nil
Isostatic pressing Arrangement	1	For all 3 Autoclaves & VPDs
Lifting Clamp for DCA	2	Capacity: 30 Ton

DCA Area

INSULATION KIT CENTER

1. Dedicated area allotted for manufacturing of Static Rings under dust free environment.
2. Static Rings insulated with the help of automatic machine for uniform Taping.
3. Kitting for all the works will be done in this place as a parallel activity to avoid any shortages and reduce searching time.

Dust Free Insulation Kit Center

Taping machine

Static Ring Mfg

INSULATION Feeder Bay

1. Dedicated area allotted for Insulation feeding, to reduce the external dependency.
2. Machines Available:
   a) Panel Saw (For PCB Cutting)
   b) Radial Drilling Machine
   c) Spacer Reducer
   d) Grinding Machine
   e) Corrugated machine
   f) Band Saw
3. **Plan for Expansion in Future:**
   a) CTC Router
   b) Cylinder scarfing machine
   c) Complete insulation setup In house.

Cylinder Rolling M/c

Panel Saw

Band Saw

Radial Drilling M/c

Core Assembly Area

Core Assembly Platform

Name of Equipment	Quantity
60 Ton Platform	2
150 Ton Platform	1

Core Lifting

CCA Platform

CCA Area

Name of Equipment	Qty
CCA Working Platforms (Make: Shandong)	5
Coil Clamping Arrangement Enerpac	2
Crimping Arrangement	2

Enerpac System

Crimping & Cutting

LV Side

HV & Tap Side

EOT Crane – 300 Ton

VPD

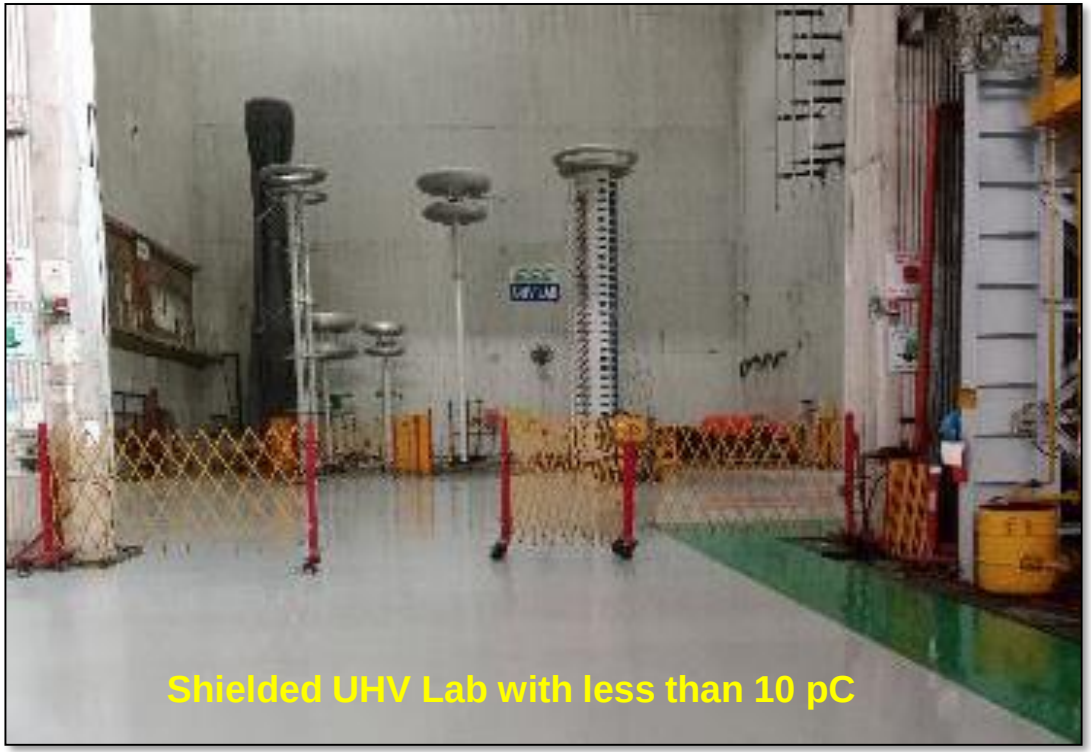
Tanking Area

Name of Equipment	Quantity	Remarks
VPD 150 kW, 0.1 Torr	1	6.5 x 4.7 x 5 Mtr
VPD 250 kW, 0.1 Torr	1	11.4 x4.5 x5 Mtr
VPD 450 kW, 0.1 Torr	1	11.8 x 6 x6 Mtr
12 kL Filter Machine	1	Nil
20 kL Filter Machine	1	Nil
Aero craster 350 Ton	1	Nil
Aero craster 250 Ton	1	Nil
Oil Storage tanks	3	200kL = 1 No's 100 kL = 2 no's
EOT Crane	3	Capacity: 300 Ton

200 kL Oil Tank

T/f ready for Test

UHV Test Lab



S. No.	Equipment Name	Make	Range/Capacity
1	Impulse Generator	Hafely	Upto LI 3000 kV, 100 kJ
2	Impulse Divider	Hafely	Upto LI 3000 kV, SI 2650 kV
3	Impulse Divider	Hafely	Upto LI 1600 kV, SI 1300 kV
4	Chopping System	Hafely	15 Stages, 200 kV/Stage
5	MG Set	Shanghai Electricals	3 MVA, 1000 kW, 50 HZ
6	MG Set	Shanghai Electricals	4 MVA, 1500 kW, 200 Hz
7	MG Set	BHEL	2 MVA, 300 kW, 150 Hz
8	Loading Transformer	GEC	8 MVA, 20.5 kV

Reactor Testing Area

Reactor Testing Transformer

S. No.	Equipment Name	Make	Range/ Capacity
1	Reactor Testing Transformer	Areva	160 MVA, 33/550 kV
2	Capacitor Bank	Universal	378 MVAr, 66 kV
3	Vibration Analyzer	Baseline	1000 Micron
4	Loading Transformer	Areva	20 MVA
5	Cascade Transformer	Farranti	75 to 300 kV

Capacitor Bank