



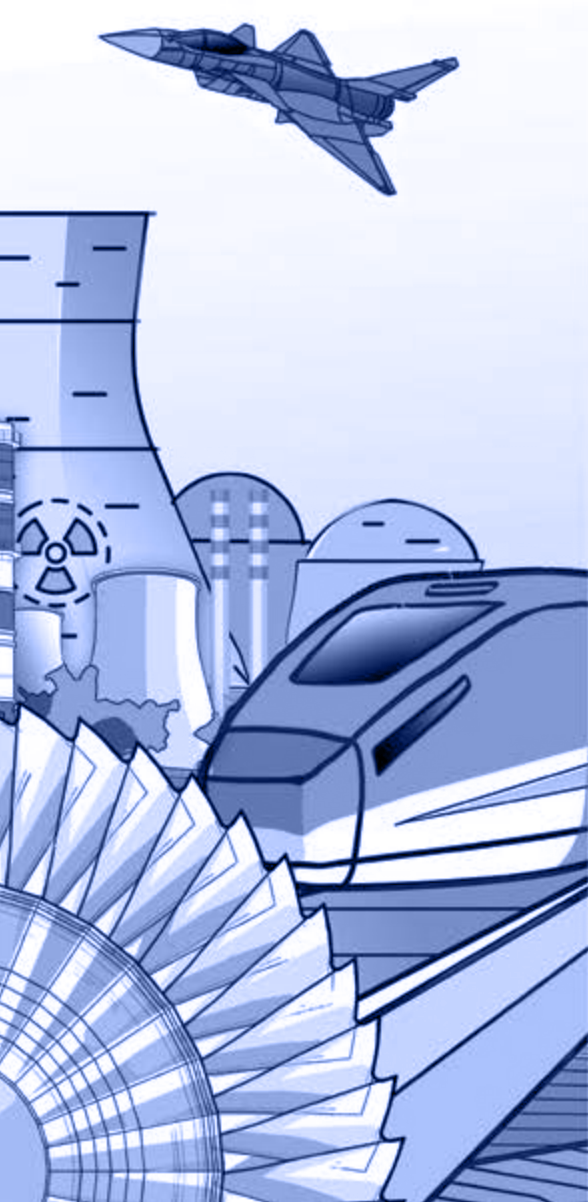
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Financial Performance Trend

Sl. No.	Particulars		2022-23	2021-22	2020-21	2019-20	2018-19
	Order Book (Excluding Taxes)						
	Order Received	₹ in crore	23548	20379	11470	20200	19995
	Orders Outstanding	₹ in crore	91336	90084	89813	95687	96082
A.	Operating Results						
I	Total Income						
	Revenue	₹ in crore	22136	20153	16296	20491	29423
	Other operational income	₹ in crore	1229	1058	1013	969	1000
	Revenue from operations (a)	₹ in crore	23365	21211	17308	21459	30423
	Other income (b)	₹ in crore	515	368	370	581	678
	Total (I= a+b)	₹ in crore	23880	21579	17678	22040	31101
II	Operating expenses						
	Material consumption, Bought Out items, Civil, Erection and engg. expenses	₹ in crore	15954	13997	11071	14727	18837
	Consumption of stores & spares	₹ in crore	404	271	289	353	412
	Changes in inventories of FG, WIP & scrap	₹ in crore	(57)	526	511	(1042)	(991)
	Employee benefits expenses	₹ in crore	5701	5517	5372	5427	5502
	Power & Fuel	₹ in crore	488	415	319	459	497
	Other expenses of Mfg, Admn. & S&D	₹ in crore	1466	1355	1480	1970	2263
	Exchange variation (gain) / loss (net)	₹ in crore	(460)	(82)	(66)	(435)	(67)
	Provisions	₹ in crore	(847)	(1526)	1467	233	1837
	Depreciation & amortisation expenses	₹ in crore	260	314	473	503	475
	Finance costs	₹ in crore	521	355	373	507	287
	Total (II)	₹ in crore	23430	21142	21290	22702	29053
III	Operating Profit/(loss) (a-II)	₹ in crore	(65)	69	(3982)	(1243)	1370
IV	Profit / (Loss) before tax (I-II)	₹ in crore	450	437	(3612)	(662)	2048
	Tax expense (Net)	₹ in crore	2	27	(894)	811	839
V	Profit / (Loss) after tax	₹ in crore	448	410	(2717)	(1473)	1209
	Other Comprehensive Income	₹ in crore	(17)	77	20	(274)	(120)
VI	Total comprehensive income	₹ in crore	430	487	(2697)	(1747)	1089
	Dividend payout	₹ in crore	139	139	-	-	696
	Dividend distribution tax	₹ in crore	-	-	-	-	143
	EBIT	₹ in crore	971	792	(3239)	(155)	2335
	EBITDA	₹ in crore	1231	1106	(2765)	348	2810
	Cash Flow:						
	From Operating Activities	₹ in crore	(742)	660	560	(2892)	(3856)
	From Investing Activities	₹ in crore	1480	(1125)	(43)	1877	1915
	From Financing Activities	₹ in crore	89	(330)	(393)	1622	(32)

Sl. No.	Particulars		2022-23	2021-22	2020-21	2019-20	2018-19
B.	Financial Position (Assets, Equity & Liabilities)						
VII	Assets						
	Property, plant & equipment and intangible assets	₹ in crore	2476	2398	2488	2814	2967
	Capital WIP and intangible assets under development	₹ in crore	354	431	420	314	235
	Non-current investments	₹ in crore	670	670	670	670	669
	Other non current assets	₹ in crore	456	365	365	321	362
	Trade Receivables (Net)	₹ in crore	6544	6229	7213	11641	15796
	Contract Assets (Net)	₹ in crore	29740	26940	24079	23794	22819
	Cash & Bank Balances	₹ in crore	6643	7154	6701	6419	7503
	Inventory	₹ in crore	6756	6560	7191	8905	7797
	Deferred tax assets(Net)	₹ in crore	3423	3530	3660	2756	3497
	Other Current assets	₹ in crore	2744	2432	2913	2601	2784
	Total Assets	₹ in crore	59804	56708	55701	60236	64431
VIII	Equity						
	Equity share capital	₹ in crore	696	696	696	696	696
	Other equity	₹ in crore	26566	26275	25788	28485	30735
	Total Equity	₹ in crore	27262	26971	26484	29181	31432
IX	Liabilities						
	Borrowings	₹ in crore	5385	4745	4834	4933	2432
	Trade Payables	₹ in crore	12090	9882	8559	9900	12078
	Contract Liabilities	₹ in crore	5635	6048	6864	6718	6839
	Other Non current liabilities	₹ in crore	310	269	295	266	225
	Non current provisions	₹ in crore	4101	3771	3913	4212	5463
	Other Current liabilities	₹ in crore	2225	1956	1589	1943	3477
	Current provisions	₹ in crore	2797	3067	3164	3082	2486
	Total liabilities	₹ in crore	32542	29737	29217	31054	32999
X	Total Equity & Liabilities (VIII+IX)	₹ in crore	59804	56708	55701	60236	64431
	Equity shares (Face Value of ₹ 2 each) Nos.		348	348	348	348	348
	Market Capitalisation as at year end	₹ in crore	24420	17184	16975	7243	26081
	Net worth	₹ in crore	27262	26971	26484	29181	31432
	Net worth (excl. OCI & Capital Reserve)	₹ in crore	27563	27254	26844	29561	31538
	Capital employed	₹ in crore	23486	23010	22405	26111	27699
XI	Human Resources	Nos	29536	30758	32131	33752	35471
	Executives	Nos	10187	10280	9742	10075	10400
	Non Executives	Nos	19349	20478	22389	23677	25071

Sl. No.	Particulars		2022-23	2021-22	2020-21	2019-20	2018-19
XII	Financial Performance Ratios						
1	Return on Net worth	%	1.63	1.52	(9.63)	(4.82)	3.77
2	Return on capital Employed	%	4.13	3.44	(14.45)	(0.59)	8.43
3	EBITDA margin	%	5.16	5.12	(15.64)	1.58	9.04
4	Operating Profit margin	%	(0.28)	0.33	(23.01)	(5.79)	4.50
5	Revenue per employee	₹ in lakhs	75	66	51	61	83
6	Revenue per rupee of employee benefit expenses	₹	3.88	3.65	3.03	3.78	5.35
XIII	Balance Sheet Ratios						
1	Current ratio	Ratio	1.29	1.30	1.39	1.45	1.67
2	% liquidation of current year net billing	%	86	86	82	73	59
3	Trade receivable (no. of days)	Days	102	107	152	198	190
4	Inventory (no. of days)	Days	111	119	161	159	97
5	Assets Turnover	Times	0.40	0.38	0.32	0.37	0.48
XIV	Per Share data						
1	Earning per share	(₹)	1.29	1.18	(7.80)	(4.23)	3.33
2	Net worth per share	(₹)	78.29	77.46	76.06	83.80	90.27
3	Market Price per share (BSE) as at year end	(₹)	70.13	49.35	48.75	20.80	74.90
4	Market Price to Book Value	Ratio	0.90	0.64	0.64	0.25	0.83
XV	Segment Revenue						
	Power Segment	₹ in crore	17499	15361	11386	14960	23474
	Industry Segment	₹ in crore	4637	4792	4910	5530	5949
	Total	₹ in crore	22136	20153	16296	20491	29423
	Segment Share						
	Power Segment	%	79	76	70	73	80
	Industry Segment	%	21	24	30	27	20

I Previous year's figures have been regrouped / rearranged, wherever considered necessary.

II Figures in () represent negative values.

III Dividend payout is interim dividend and proposed final dividend for the year.

IV Equity share capital at the end of FY 2018-19 is post buyback in January 2019.

Notes:

1 EBIT = PBT+Finance cost

2 EBITDA = EBIT+Depreciation & Amortisation

3 Capital employed=Net Worth-capital WIP & Intangible Assets under development -Deferred tax

4 Return on Net worth = (PAT/Average Net Worth excld. OCI & Capital reserve)*100

5 Return on capital Employed = EBIT/Capital Employed*100

6 EBITDA Margin % = EBITDA/Total Income *100

7 Operating Profit Margin = Operating profit/Revenue from operations *100

8 Current ratio = Current Assets/Current liabilities

9 Trade receivable (no. of days) = Trade receivable *365/Revenue from operations.

10 Inventory (no. of days) = Inventory *365/Revenue

11 Assets Turnover = Total Revenue/Total Assets

BHEL's Product and Service Profile includes design, manufacturing and installation in the following major segments:

Thermal Power Plants

- Complete EPC solutions including state-of-the-art emission control equipment for Thermal Power Plants
- Steam Generators, Steam Turbines, Turbo Generators (TG) along with regenerative feed cycle upto 1000 MW unit rating, including 660/700/800 MW unit rating sets based on supercritical technology and upto 600 MW unit rating sets based on subcritical technology
- Water and air cooled Condensers, Condensate Extraction Pumps, Boiler Feed Pumps, Duplex Heaters, Valves and Heat Exchangers – meeting requirement of TG Sets upto 1000 MW
- Combined cycle plants upto 350 MW with higher plant efficiencies
- Residual Life Assessment (RLA) studies and Life Extension of old thermal power plants, plant performance improvement through renovation, modernization and uprating of power plant equipment including solution towards flexible operations

Nuclear Power Plants

- Reactor side components like Steam Generators, Reactor Headers, End Shields, special purpose Heat Exchangers, Pressure Vessels, Motors etc. for Nuclear Power plants
- TG island equipment of PHWRs (Pressurized Heavy Water Reactors), FBRs (Fast Breeder Reactors) and AHWRs (Advanced Heavy Water Reactors) including 'EPC' solutions covering Steam Turbine, Turbo Generators, MSRs (Moisture Separator Reheaters), other heat exchangers and pumps

Gas-Based Power Plants

- Gas turbines and matching generators ranging from 25 MW to 299 MW (ISO) rating with following features:
 - Gas turbine based co-generation and combined-cycle systems for industry and utility applications

- Capability to burn a variety of fuels (both gaseous and liquid) along with mixed firing in different combinations of fuels
- Low exhaust emission levels upto 15ppm of NOx with Dry Low NOx (DLN) combustors & noise reduction.

Hydro Power Plants

- Capability for engineering and manufacturing of custom made conventional Hydro Turbines of Kaplan types up to 100 MW, Francis and Pelton types up to 400 MW.
- Reversible Pump-Turbines for Pump Storage Plants up to 250 MW
- High capacity pumps for Lift Irrigation Schemes (LIS) up to 200 MW
- Butterfly, Spherical Valves and Auxiliaries for Hydro Stations
- Microprocessor based Digital Governing System for all types of Hydro Power Plants
- Plant Layout & Mechanical Balance of Plant (BOP)
- Capability for engineering, manufacturing, installation and commissioning of custom-made Salient Pole Vertical Synchronous Hydro Generator up to 400 MW.
- LIS motor up to 200 MW
- Fixed Speed Generator-Motors for Pump Storage Plants up to 300 MW
- Bulb turbines with matching generators up to 10 MW and horizontal generator up to 20 MW along with matching Static Excitation System/ Brushless Excitation Systems
- Mini, Micro and Small Hydro Power Plants up to 25 MW rating
- Renovation, Modernization and uprating of Hydro Power Plants
- Balance of Plant (BOP) & System Integration

Solar Power System

- EPC solutions of Solar PV Power Plants:
 - Grid Interactive systems with & without BESS (Battery Energy Storage System)
 - Floating Solar Power Plants
 - Standalone systems
 - Roof Top systems
 - Hybrid systems
 - Canal Top Systems
 - Solar based water pumping systems

Desalination and Water Treatment Plants

- Complete Water Management Solutions for Power Plants, Industrial applications and Municipal applications with different treatment technologies:
 - Pre Treatment Plants (PT)
 - Desalination Plants
 - Demineralization Plants (DM)
 - Membrane Based Treatment Systems
 - Electro Deionization plants
 - Effluent Treatment Plants (ETP)
 - Sewage Treatment Plants (STP)
 - Zero Liquid Discharge (ZLD) System
 - Cooling Water Treatment Plants
 - Tertiary Treatment Plants

Systems and Services

- Power Generation Systems
 - Turnkey power stations/ EPC contracts
 - Combined-cycle power plants
 - Cogeneration systems
 - Captive power plants
 - Modernization and renovation of power stations and RLA studies.
 - Flexible Operation solution of fossil fuel power plants
 - Software packages including simulators for utilities
 - Erection, commissioning, support services, spares management and consultancy services for all the above systems

Industrial Systems

- Coal Handling Plant and Ash Handling Plant including Civil & Structural, Mechanical, Electrical works and Automation systems
- Mine Winder systems
- Electrics, Drives, Controls & Automation Systems for Processing & Compacting of Raw Materials, Iron Making, Primary & Secondary Steel Making, Casters & steel finishing like mills & Process Lines for both long products & flat products
- Raw Material Handling System including Civil & Structural, Mechanical, Electrical and Automation systems for Steel and other industries

- Electrics & Automation Systems for High Current Rectifiers of Smelters and Processing Mills for Aluminum Plants
- Automated Storage & Retrieval Systems (ASRS)

Detailed Product Profile is as follows:

Steam Generators

- Steam generators for utilities, ranging from 30 to 1000 MW capacity, using coal, lignite, oil, natural gas or a combination of these fuels; capability to manufacture boilers with ultra-supercritical parameters upto 1000 MW unit size
- Steam generators for utilities, with Advanced Ultra Supercritical (AUSC) parameters of 310 ata and 710°C / 720 °C.
- Circulating Fluidized Bed Combustion (CFBC) steam generators, with supercritical parameters upto 660 MW unit size for utilities
- Fuel Flexible boilers capable of all combination of blending / co-firing diverse qualities of imported/ Indian coals, blending of lignite, petcoke, etc.
- Capability for manufacturing and supply of Steam Generators and Reactor Headers for Nuclear Power Plant as per ASME Sec.-III NB Class-1 requirements
- Steam generators for industrial applications of the following types ranging from 40 T/hr to 450T/Hr capacity, using coal, natural gas, industrial gases, biomass, lignite, oil, petcoke, bagasse or a combination thereof
 - Pulverized coal / lignite fired boilers
 - Stoker fired boilers
 - Bubbling Fluidized Bed Combustion (BFBC) boilers
 - Circulating Fluidized Bed Combustion (CFBC) boilers
 - Heat-Recovery Steam Generators (HRSG)
 - Chemical recovery boilers for paper industry, ranging from capacity of 100 to 1000 T/Day of dry solids
- Expertise and capability in implementing the Biomass co-firing with coal in boilers
- Complete solutions for flexible operation of boilers

Steam Generator Auxiliaries

- Air Preheaters
 - Tubular Air Preheaters

- Rotary regenerative Air-Preheaters (different types like Bisector, Tri Sector and Quad Sector)
- Particulate Emission Control
 - Electrostatic precipitators with outlet emission as low as 15 mg/Nm³ (efficiency up to 99.97%)
 - Bag Filters for utility and industrial applications
 - Mechanical Dust Collector
 - Ammonia Flue Gas Conditioning System
- Fans
 - Axial reaction fans of single stage and double stage for clean air application and dust laden hot gases applications up to 200°C, with capacity ranging from 40 to 1300 m³/s and pressure ranging from 400 to 1,500 mmwc
 - Axial impulse fans for both clean air and flue gas applications up to 200°C, with capacity ranging from 25 to 600m³/s and pressure from 300 to 700 mmwc
 - Single and double-suction radial fans (plate aerofoil bladed) for clean air and dust-laden hot gases applications up to 400°C, with capacity ranging from 4 to 660m³/s and pressure ranging from 200 to 3000 mmwc
- Pulverizers
 - Bowl Mills of slow and medium speed (for both pressurized & suction environment) with capacity from 10 T /Hr. to 120 T/ Hr.
 - Ball Tube Mills from 30 T/ Hr. to 110 T/ Hr.
 - Wet Ball Mills (upto 50 T/Hr.) for FGD Applications
- Guillotine Gates & Dampers
 - Guillotine gates with electric/ pneumatic actuator. 100% leak proof with seal air (Maximum Width/ Height): Type 1: 7m/14.5m, Type 2: 14.6m/4.5 m, Type 3: 11.5m/6.5m
 - Bi-plane dampers with electric/ pneumatic actuator. 100% leak proof with seal air (Maximum Width/ Height): Type-1: 7m/14.5m, Type-2: 12m/10.5 m
 - Louver dampers (open close/ regulating) with electric/ pneumatic actuator (Maximum Width/ Height): Type-1: 6.5m/14.5 m, Type-2: 12m/10.5m
 - Control dampers (regulating) with electric/ pneumatic actuator (Maximum Width/ Height): Type- 1:6.5m/14.5m, Type-2: 12m/10.5m
- Steel Chimneys
 - Steel Chimneys for flue gas exhaust applications with maximum height of 80m and Inner Diameter up to 6.5m
- Flue Gas Desulphurization (FGD) systems
 - Wet Limestone & Seawater based FGD systems

- Absorber – DCFS Technology (Double Contact Flow Scrubber)
- Wet Limestone FGD – Single & Twin Tower Absorber
- Seawater FGD – Grid Tower Absorber
- Absorber with & without Gas to Gas Heater
- FGD with SO₂ efficiency of 99.9%
- Selective Catalytic Reduction (SCR) systems
 - SCR System (Honeycomb & Plate type) with anhydrous Ammonia/ Aqueous Ammonia/ Urea reagent for NOx emission control
 - SCR Plate Type Catalyst for NOx emission control
- Air Quality Control Systems
 - De NOx
 - In furnace combustion control solutions
 - Selective Catalytic Reduction (SCR) systems

Soot Blowers

- Long Retractable Soot Blowers (LRSB) for travel upto 12.2m
- Furnace Temperature Probe (FTP) for travel length up to 10m
- Long Retractable Non-Rotating (LRNR) soot blowers with forward blowing for Air Pre heaters
- Rotary Soot Blowers
- Rack type Long Retractable Soot Blowers
- Ash discharge valve for CFBC boiler application
- Soot Blowers with sequential PLC, control panel and integral starter

Valves

- High and Low-pressure Turbines Bypass Valves & hydraulic system for utilities and industrial application
- High and medium-pressure Valves, Cast and Forged Steel Valves of Gate, Globe, Non- Return (Swing- Check and Piston Lift-Check) types for steam, oil and gas duties upto 950 mm diameter, maximum pressure class 4500 (791 kg/cm²) and 650 °C temperature
- Hot reheat and cold reheat Isolating Devices upto 900 mm pipe size class 1500 and steam temp upto 650°C
- High capacity Spring Loaded Safety Valves for set pressure upto 372 kg/cm² and temperature upto 630°C
- Automatic electrically operated pressure relief valves for set pressure upto 320 kg/cm² and temperature upto 610°C
- Safety relief valves for set pressure up to 421 kg/cm² and temperature upto 537°C

- Reactive cum absorptive type Vent Silencers maximum diameter of 2700 mm
- Direct Water Level Gauges
- Angle Drain Valves - Single & Multi Stage for Turbine Drain Application
- Severe Service Control Valves for Re-Heater & Super Heater Spray Lines
- Quick Closing Non return Valves for Extraction lines and Power Assisted Non Return valves, upto 900mm diameter, 158 kg/cm² pressure and 540°C temperature
- Knife edge gate valve of size 1300 mm & 1400 mm diameter for FGD applications

Piping Systems

- Power cycle piping, Constant load Hangers, Variable spring Hangers, Hanger components, Low Pressure piping including circulating water piping for power stations upto 1000 MW capacity including Super Critical sets
- Piping systems for Nuclear Power Stations, Combined Cycle Power Plants & Industrial boilers and process industries
- Prefabricated piping/ duct spools to cater to refinery segment complying with National Association of Corrosion Engineers (NACE) requirements

Seamless Steel Tubes

- Hot-finished and cold-drawn seamless steel tubes with a range varying from outer diameter of 21 to 133 mm and wall thickness of 2 to 12.5 mm, in carbon steel and low-alloy steels to suit ASTM/ASME and other international specifications
- Rifled tubes (ribbed) with a range varying from tube outer diameter of 38.1 to 63.5 mm and wall thickness of 5.6mm to 7.1mm, in carbon steel and low-alloy steels to suit ASME and other international specifications
- Spiral finned Tubes with a range varying from tube outer diameter of 31.8 to 114.3 mm and wall thickness of 2.4mm to 9.5mm and with fin height of 12.5mm to 21mm and fin density ranges from 40 to 240 fins per meter, in carbon steel and alloy steels to suit ASME standards

Pressurized Fluidized Bed Gasifier (PFBG) (Coal to Chemicals)

- High-Pressure Oxy-blown coal gasifier of single unit

capacity upto 2500 Tonnes per day, capable to produce syngas, to meet the following applications:

- Hydrogen/ Ammonia/ Ammonium Nitrate
- Methanol/Dimethyl ether
- Direct reduction of Iron ore
- Power through IGCC
- Synthetic Natural gas
- PFBG technology is suitable for the gasification of high and low-rank coals including lignite

Steam Turbines

- Steam Turbines upto 1000 MW rating for thermal sets and upto 700MWe ratings for Nuclear Power Plants
- 15000 HP Turbines for Marine Propulsion

Turbogenerators

- Turbogenerators of higher rating upto 1000 MW for Thermal/Gas Power Plants
- Generators for CCPP applications
- Generators upto 731MWe for Nuclear Power Plants
- Generator Cooling System: Air, Hydrogen, Water
- Excitation System: Brushless / Static Type
- Auxiliary Systems: Primary Water System, Seal Oil System, Gas System, etc.

Industrial Sets

- Steam Turbine based Captive Power Plants
 - Steam Turbine-Generator (STG)/ Boiler-Boiler-Turbine-Generator (BTG)/ Engineering-Procurement-Construction (EPC): Unit rating up to 200 MW
 - Non Reheat upto 120 MW unit rating
 - Reheat from 70 MW to 200 MW unit rating
- Steam Turbine to Mechanical drives like Compressors, Pump, Blowers etc.
- Gas Turbine based Captive Power Plants GTG/ HRSG/ EPC: 26 MW (Fr-5) to 126 MW (Fr-9E)

Castings And Forgings

- Heavy castings and forgings of creep resistant alloy steels, stainless steel and other grades of alloy steels meeting stringent international specifications for components of sub critical, supercritical and Ultra-super critical technology

Condenser and Heat Exchangers

- Surface Condenser
 - For thermal power plants up to 1000 MW
 - For Nuclear power plants up to 700 MWe
 - 12.5 MW Marine applications
 - Industrial Condensers
- Air Cooled Condenser for 660 and 800 MW thermal power plants
- Feed Water Heaters (HP Heaters, LP Heaters, Drain Coolers, Duplex Heater, De-Super Heaters, etc.)
 - Thermal: 7 to 600 MW (sub-critical) & 350- 1000 MW (super critical with single stream)
 - Nuclear: 236 MWe, 500 MWe & 700 MWe
- Moisture Separator & Reheater (MSR)
 - Nuclear: 236 MWe, 500 MWe & 700 MWe
- Live Steam Reheater (LSR)
 - 500 MW Fast Breeder Reactor (FBR) Nuclear sets
- D₂O and Moderator Heat Exchangers for Nuclear primary cycle
- Auxiliary Heat Exchangers for Turbo and Hydro Generators
 - Air Coolers (Frame & Tube Type)
 - Oil Coolers (Shell & Tube Type and Plug in Type)
 - Hydrogen Coolers (Frame & Tube Type)
- Oil Coolers (Shell & Tube Type Single Tube or Concentric Double Tube Type) (Frame & Tube Type) for Transformers
- Auxiliary Heat Exchangers (Shell & Tube Type) for general application
- Butterfly Valves & Rubber Expansion joints for water application from 400NB to 2800NB
- Flash Tanks & Misc. Tanks for oil & water storage
- Auxiliary Heat Exchangers for Transformers
 - Oil Coolers (Shell & Tube Type Single Tube or Concentric Double Tube Type) (Frame & Tube Type)
- Auxiliary Heat Exchangers for general application
 - Water - Water Coolers (Shell & Tube Type)
- Gland steam condensers
 - Industrial applications upto 7 MW to 150 MW
 - Thermal Plants upto 1000 MW
 - Nuclear Plants upto 700 MWe
- Air-cooled heat exchangers for GTG up to 126 MW (Fr-9E), and Compressor applications of all ratings
 - Steam jet air ejectors for condensers up to 150 MW
 - Deaerators from 7 MW to 1000 MW
 - Gas coolers for compressor applications

- Oil coolers- STG upto 150 MW, GTG upto 126 MW (Fr-9E)
- Generator Air coolers upto 150 MW STG and GTG up to 250 MW (9 FA)

Pumps

- Pumps for various utility power plant applications up to a capacity of 1000 MW:
 - Boiler feed pumps (motor or steam turbine driven) and Boiler feed booster pumps.
 - Condensate extraction pumps including Drip Pumps
 - Circulating water pumps (Cooling Water Pumps)
 - Concrete Volute Cooling Water Pumps
 - Pumps for Secondary Side of Nuclear Power Plants
 - Slurry Recirculation Pumps for FGD Applications upto 500 MW

Compressors

- Complete range of Centrifugal compressors (driven by Steam Turbine, Electric Motor and Gas Turbine) along with auxiliary systems for all major compression applications in various industries like Refineries, Fertilizers, Petrochemicals, Oil & Gas, Steel, Power and Natural Gas Transportation sectors
- Compressor packages for capacity up to 3,00,000 m³/Hr for various gases like Air, CO₂, Syngas, N₂, H₂, NH₃, Natural Gas, Wet Gas, Propylene and other services
- Horizontally split type up to 40 bar design pressure
- Vertically split type up to 350 bar design pressure
- Oxidation Blowers for FGD Applications

Solar Photovoltaics

- Multi/ Mono Crystalline Solar cells
- Multi Crystalline/ Mono-PERC PV Modules (upto 400 Wp)
- Solar Inverter for utility and railway traction application
- Power Transformers (15 MVA and above)
- Passive Solar Tracking System
- Space grade solar panels

Automation and Control Systems

- Automation and Control Systems for
 - Steam Generator/ Boiler Controls including Boiler Protection

- Steam Turbine Controls
- Boiler Feed Pump (BFP) Drive Turbine Control
- Station Control and Instrumentation/ DCS
- Offsite /Off base controls/ Balance of Plant Controls
 - Ash Handling Plant (AHP)
 - Coal Handling Plant(CHP)
 - Water System for power plant
 - Mill Reject System (MRS)
 - Condensate On-Load Tube Cleaning system (COLTCS)
 - Gas Booster Compressor (GBC)
 - Condensate Polishing Unit (CPU)
 - Heating, Ventilation & Air conditioning (HVAC)
 - Fuel Oil Unloading System (FOUS)
- Hydro Power Plant Control System
- Gas Turbine Control System
- Nuclear Power Plant Primary Cycle Control Centre Instrumentation Package (CCIP)
- Nuclear Power Plant Turbine & Secondary Cycle control system
- Power block of solar thermal power plant
- Industrial Automation
- Sub-Station Automation (SAS)
- Non-FST HVDC control panels
- Electrical Control System (ECS) for Refineries
- Energy Management System (EMS) for Power Plant
- Electrical Interface System for MV/LV Switchgear

- Open Platform Communications (OPC) connectivity from DCS to third party systems
- Enterprise Asset Management System (EAMS)
- Operator Training Simulator
- Remote Monitoring & Diagnostic System (RMDS)

Switchgear

- Medium Voltage Vacuum Switchgear for indoor and outdoor applications for voltage ratings upto 36 kV and Gas Insulated Switchgears upto 420 kV
 - Indoor switchgears
 - Upto 12 kV, 50 kA, 4000 Amp for thermal, nuclear, hydro and combined cycle Power Plant Projects
 - Upto 36 kV, 31.5 kA, 2500 Amp for Industries, solar power plants and refineries
 - Compact switchgear 12 kV, 25 kA, 1250 Amp for distribution system
 - Outdoor Vacuum circuit breakers
 - 12 kV, 26.3 kA, 1250 Amp for distribution segment
 - 36 kV, 26.3 kA, 1600 Amp for distribution segment
 - 25 kV (52kV class), 20 kA, 1600 Amp for track side railway application
 - Gas insulated switchgears
 - 36 kV, 40kA, 2500 Amp for Refineries, Urban Distribution & Industries (Single Busbar & Double Busbar Designs)
 - 420kV, 40kA, 3150 Amp for transmission sector (hydro station/ thermal power plant/ other substations)
 - 420 kV Gas Insulated Bus ducts

Transmission Systems

- EHV & UHV Sub-stations/switchyards both AIS & GIS type ranging from 33 kV to 765 kV
- HVDC transmission systems
- Flexible AC Transmission System (FACTS) solutions
 - Fixed Series Compensation (FSC)
 - STATCOM
 - Controlled Shunt Reactor (CSR)
 - Phase Shifting Transformer (PST)
- Power System Studies

On Load Tap Changers (OLTC)

- On Load Tap Changer upto 765 kV class Transformer & Off Circuit Tap Switch upto 765 kV, 500MVA class Transformer for various application like Power Transformer, Furnace Transformer, Station Transformer, Rectifier Transformer etc.

Software System Solution

- Performance Analysis, Diagnostics & Optimization (PADO) for Thermal Utilities
- Performance Calculation & Optimization system and Real Time Performance Data Monitoring system

L T Switchgear & Bus Ducts

- Bus-ducts with associated equipment to suit generator power output of utilities of upto 800 MW capacity
- 415 V LT Switchgear for Thermal Power Plant, Hydro, Nuclear, Captive Power Plant (CPP) & Steel industry

Transformers & Reactors

- Power transformers for voltage upto 1200 kV
 - Generator transformers (upto 600 MVA, 420 kV, 3 Ph / 400 MVA, 765 kV, 1 Ph/500 MVA, 420 kV,1 Ph)
 - Autotransformers (upto 1000 MVA, 400 kV, 3 Ph / 600 MVA, 400 kV, 1 Ph / 500 MVA, 765 kV, 1 Ph / 1000 MVA, 1200 kV, 1 Ph)
- Converter Transformers / Smoothing Reactors (upto 600 MVA, ± 800 kV) / (upto 254 MVar, ± 500 kV) for HVDC transmission
- Shunt Reactors (upto 150 MVar, 420 kV, 3 Ph / 110MVar, 765 kV, 1 Ph)
- Controlled Shunt Reactors (up to 200 MVar, 420 kV, 3 Ph/ 200 MVar, 420 kV, 1 Ph / 200 MVar, 765 kV, 1 Ph) for Flexible AC Transmission system applications
- Phase Shifting Transformers (upto 500 MVA, 400 kV, 3 Ph/ Upto 500 MVA 400 kV 1 Ph) for transmission lines
- Instrument transformers
 - Current transformers upto 400 kV
 - Electro-magnetic voltage transformers upto 220 kV
 - Capacitor voltage transformers (33K V to 1200 kV)
 - 24kV PR class Current Transformer for HVDC Projects
- Special Transformers
 - Rectifier transformer (upto 120 kA, 132 kV)
 - Furnace transformer (upto 33 kV, 100 MVA)
- ESP transformers up to 95 kVp, 1600 mA
- Dry type transformers upto 15 MVA 36 kV
- Composite Monitoring System for Power Transformers

Capacitors

- H.T. Capacitors
 - Shunt, Series & Static VAR Compensation (SVC), Harmonic filter & HVDC applications (3.3 kV to 500 kV, 1 Ph/ 3 Ph capacitor banks)
- Capacitor Divider for CVT (33kV to 1200kV)
- Coupling Capacitor (33kV to 800 kV, 4400pF to 13200 pF) for transmission lines
- Surge Capacitor for protection of Generators & Transformers (11kV to 40 kV)

Bushings

- Oil Impregnated Paper (OIP) condenser bushings 52 to 500 kV for transformer applications

- 25 kV Locomotive bushings
- Wall bushings upto 245 kV

Control Gear

- Electronic controllers for ESPs in industries/ power plants
- Digital Static Excitation control system (2000 A, 400 V DC with redundant thyristor stacks & DC field breaker)
- Large current rectifiers with PLC Based digital controls
- Control & Protection Panels (upto 400 kV) For EHV Transmission projects
- SCAP, Thyristor, RAPCON and STATCON Panels.

Insulators and Ceramics

- Porcelain Insulators.
 - Hollow insulators upto 765 kV for Transformers and SF6 circuit breakers.
 - Solid core insulators upto 400 kV for Bus Post & Isolators for substation applications.
- Composite Long Rod Insulators
 - Upto ± 800 kV, 420kN for HVDC application
 - Upto 765kV, 210kN for HVAC application.
 - Traction Insulators Stay arm, Bracket and 9 Ton Insulators for Indian railways.
- Ceramic Lining (CERALIN) wear resistant material for Thermal Power Plant & Ash Slurry Application.
- Industrial and Special Ceramics
 - EWLI –Electronic Water Level Indicators used in Boiler Drum Water Level Monitoring (BHELVISION system)
 - Ceramic and Tungsten Carbide Flow Beans for Christmas tree valves.
 - Grinding Media for Pulverizing in Thermal Power Plant.

Electrical Machines

- AC Machines for Safe Area Application
 - Squirrel cage induction motors -150 kW to 22000 kW
 - Slip ring induction motors - 150 kW to 10000 kW
 - Synchronous machines - 1000 kW to 25000 kW
 - Variable speed Motors- 150 kW to 22000 kW (Squirrel cage motors)
 - Variable speed Motors - 1000 kW to 15000 kW (Synchronous motors)

- AC Machines for Hazardous Area Application (Fixed speed or with VFD)
 - Flame-proof squirrel cage Induction motors (Ex 'd') (150 kW to 1300kW)
 - Non-sparking squirrel cage Induction motors (Ex 'n') (150 kW to 22000 kW)
 - Increased safety squirrel cage Induction motors (Ex 'e') (150 kW to 4000 kW)
 - Pressurized Squirrel cage Induction motors (Ex 'p') (150 kW to 22000 kW)
 - Pressurized Synchronous machines (Ex 'p') (1000 kW to 25000 kW)
- Industrial Alternators (Steam turbine, Gas turbine and Diesel engine driven) (3000 kVA to 25000 kVA)
- Vertical Motors for Primary Coolant Pumps for nuclear power plants
- Induction Generators (300 kVA to 6000 kVA) for mini/micro hydro plant.
- 2 Pole Air cooled Steam/ Gas Turbine driven Generators (3 MW to 160 MW)
- 4 Pole Air cooled Steam/ Gas Turbine driven Generators (3 MW to 40 MW)
- 2 Pole Hydrogen cooled Steam/ Gas Turbine driven Generators (36 MW to 270 MW)
- 200kW HTSC Motor for Marine applications
- Permanent Magnet Based Generators upto 5 MW
- Gas Turbine generators upto 270MW
- Alternators for industrial applications with single bearing upto 2 MW

Rail Transportation

Transportation Systems

- AC Electric Locomotives (upto 9000 HP, 25 kV AC)
- AC-DC Dual Voltage Electric Locomotives
- AC EMU (Electric Multiple Units) Coaches
- Metro Coaches
- Traction Propulsion Systems for:
 - 6000 HP and 9000 HP IGBT based AC Locomotive
 - 3-phase IGBT based AC Electric Multiple Unit (EMU) and Mainline Electric Multiple Unit (MEMU)
 - Air-conditioned Electric Multiple Units (ACEMU)
 - ACEMU electrics for DC drives
 - Semi High Speed Trainset (Vande Bharat)
 - 1600 HP IGBT based DEMU (Diesel Electric Multiple Unit)

- Metro train
- 1600HP Multi-Genset Locomotive
- WAG7 Locomotive with Regenerative Braking System
- Diesel Electric Tower Car
- Diesel-Electric Shunting Locomotives (upto 3250 HP)
- OHE recording-cum-test car
- Dynamic track stabilizers
- Rail cum Road vehicle
- TCMS (Train Control & Monitoring System) Panels

Transportation Equipment

- Traction Converter & Auxiliary Converter
- Vehicle Control Electronics
- Hotel Load Converter
- Composite Converter Comprising Traction Converter and Hotel Load Converter
- Motorized bogies for mainline Locos
- Traction Transformer
 - Upto 5400 kVA for conventional locomotives
 - Upto 9000 KVA for 3 phase drive locomotives.
 - Upto 1200 KVA conventional AC EMU/ MEMUs
 - Upto 1578 kVA for 3 phase EMU
- 3- phase AC Traction Motors (axel hung/fully suspended type) (upto 1200 kW) for Locomotives & EMUs
- DC Traction Motors (upto 630 kW) for Locomotives & EMUs
- Traction Alternators (upto 3860 kW) for Diesel Electric Locomotives
- Traction Generators upto 2000 kW
- DC Blower motors (upto 50kW) for dynamic braking system
- Motor Generator sets (upto 25 kW) for auxiliary requirements
- Eddy Current Clutch
- Traction gears and pinions for Locomotives & EMUs
- Specialized Wagons (upto 28 axle, 296 Ton)
- Railway Track Electrification
- Wheel and Axle machining

Defence and Aerospace

- Super Rapid Gun Mount (SRGM) 76/62 for naval ships
- Integrated Platform Management system (IPMS) for naval ships
- Integrated Bridge System (IBS)

- Static Main Motor Generator (SMMG)
- Rotary Main Motor Generator with Controls (RMMG)
- Permanent Magnet (PM) based reserve propulsion motor and drive.
- Frequency converters (PM based and conventional motor based) with drive controls
- Training Simulator for Vehicles, platforms, radars, weapons, missiles and Computer Based Training (CBT) for all defence and para-military forces
- Thermopressed Components for Tank Armor including Turret Casting for T-72 Tanks
- 2 kW Liquid Cooling System for Jammer which comprises four modules namely ACM Module, Pump Module, PCM Module and Electronic Control Unit
- Casting and Forgings for ships
- Onboard Compact Heat Exchangers for various fighter aircraft platforms
- Fuel Tanks and other components for Launch Vehicles and Satellites
- Reserve Propulsion motor with drive unit
- Compact Brushless Alternators
- Space grade Batteries
- Solar Panels for Satellites
- Li-ion cells for Launch Vehicles
- Li-ion batteries for Aircraft applications

Energy Storage System & E- Mobility

- Charging Infrastructure for Electric Vehicles
- Battery Energy Storage Solutions

Oil Field Equipment

- Oil Rigs – On-shore drilling rigs with AC- VFD and AC-SCR technology for drilling upto depths of 9,000 meters, work-over rigs for servicing upto depths of 6,100 meters, mobile rigs for drilling upto depths of 3,000 meters, complete with matching draw-works and hoisting equipment including:
 - Mast and Substructure
 - Rotating Equipment: Draw works; Rotary; Swivels; Travelling Blocks
 - Independent Rotary Drive (IRD) Unit
 - Dead Line Anchor
 - Mud System including pumps
 - Triplex Mud pumps 5000 psi Working Pressure
 - Mud processing equipment: Degasser, Desander
 - Sucker Rod Pump (Beam Pump Structure & Pumping Unit Gear Reducer)

- Refurbishment and upgradation of Oil Rigs
- 3-phase Oil Rig motor up to 1150 HP (for Draw works, Mud Pump, Drilling)
- Oil Rig motors upto 1000 HP (Draw works, mud pump, drilling)
- Oil Rig alternators upto 1750 kVA (for AC Power Pack)
- AC/ DC Power Control Room for E760, E1400, E2000 & E3000 Rig
- AC Power Pack upto 1430 kVA for DG sets
- AC Control Module
- DC Control Module
- Driller's Console upto 3 mud pumps, IRD & draw work control & monitoring, load rating (0-1800 A, 0-1000 V)
- Mobile Lighting Tower, Rig Lighting Tower
- AC- VFD Controls for AC Rigs
- STATCOM for power factor improvement in AC SCR Rigs
- Well heads and X-mas Trees upto 15,000 psi, Mud Line Suspension, Choke and Kill Manifold, CBM Wellheads, DSPM H- Manifold Assembly, Mud valves

Fabricated Equipment and Mechanical Packages

- Cryogenic storage tanks, Mounded storage systems and storage spheres
- Pressure Vessels, Columns, Reactors/ Separators, Heat Exchangers
- Fired Heaters
- Purge Gas Recovery Unit
- Pressure Vacuum Swing Adsorption (PVSA) Oxygen System (MO₂) for medical applications
- Gear Box
 - Accessory & Load Gear Box for Gas Turbine Application
 - Gearbox for Steam Turbine Application
 - Gearbox for Boiler Feed Pump Drive Turbine (BFP DT) Application
 - Gearbox for Air Cooled Condenser (ACC) fan Application
 - Gearboxes for Sucker Rod Pump (SRP) Application
 - Gearbox for Independent Rotary Drive (IRD)
 - Gearbox for AC Draw works
 - Gearboxes for Super Rapid Gun Mount (SRGM) Application

Glossary

ACC	Air Cooled Condenser	IR	Indian Railway
AFQMS	Approval of Firms and its Quality Management System	ISMS	Information Security Management System
ARAI	Automotive Research Association of India	ISO	International Organization for Standardization
AUSC	Advanced Ultra Super Critical	ISRO	Indian Space Research Organisation
BESS	Battery Energy Storage System	KPCL	Karnataka Power Corporation Limited
BPCL	Bharat Petroleum Corporation Limited	LCA	Light Combat Aircraft
BSE	Bombay Stock Exchange	LIS	Lift Irrigation Scheme
BTG	Boiler Turbine Generator	MEIL	Megha Engineering & Infrastructures Limited
C&I	Control & Instrumentation	MEMU	Mainline Electric Multiple Unit
CASIDC	Combat Aircraft Systems Development & Integration Centre	MoU	Memorandum of Understanding
CEA	Central Electricity Authority	MSME	Micro, Small and Medium Enterprises
CEMILAC	Centre for Military Airworthiness and Certification	MSR	Moisture Separator & Reheater
CFBC	Circulating Fluidised Bed Combustion	NEP	National Electricity Plan
CIL	Coal India Ltd	NLCIL	NLC India Limited
CPIO	Central Public Information Officer	NPCIL	Nuclear Power Corporation of India Limited
CPSE	Central Public Sector Enterprise	NSE	National Stock Exchange
CSIR	Council of Scientific & Industrial Research	OEM	Original Equipment Manufacturer
CSPGCL	Chhattisgarh State Power Generation Company	PCP	Power Cycle Piping
CSR	Corporate Social Responsibility	PFBG	Pressurized Fluidized Bed Gasification
CVC	Central Vigilance Commission	R&D	Research & Development
DPE	Department of Public Enterprises	R&M	Renovation & Modernisation
ED	Executive Director	RPCL	Raichur Power Company Limited
EHV	Extra High Voltage	SCOPE	Standing Conference of Public Enterprises
EMU	Electric Multiple Unit	SCR	Selective Catalytic Reduction
EPC	Engineering, Procurement & Construction	SEBI	Securities and Exchange Board of India
ESP	Electrostatic Precipitator	SG	Steam Generator
EV	Electric Vehicle	SPV	Solar Photo Voltaic
FACTS	Flexible Alternating Current Transmission System	SRGM	Super Rapid Gun Mount
FGD	Flue Gas Desulphurization	STG	Steam Turbine Generator
GeM	Government e-Marketplace	STPP	Super Thermal Power Plant
GIS	Gas Insulated Substation	TANGEDCO	Tamil Nadu Generation and Distribution Corporation
GSECL	Gujarat State Electricity Corporation Limited	TCA	Technology Collaboration Agreements
HAL	Hindustan Aeronautics Ltd	TCMS	Train Control & Management System
HVDC	High Voltage Direct Current	TG	Turbine & Generator
ICAI	The Institute of Chartered Accountants of India	TPD	Tonnes Per Day
ICF	Integral Coach Factory	TPP	Thermal Power Plant
IGBT	Insulated-Gate Bipolar Transistor	TPS	Thermal Power Station
IGCAR	Indira Gandhi Centre for Atomic Research	TRSL	Titagarh Rail Systems Ltd
IIT	Indian Institute of Technology	UB	Utility Boiler
IOCL	Indian Oil Corporation Ltd	UHV	Ultra High Voltage
IPM	Integrated Platform Management System	VFD	Variable Frequency Drive
IPR	Intellectual Property Right	WAG	W (broad gauge), A (AC traction), G (goods duty)
		WBPDCL	West Bengal Power Development Corporation Limited

Glossary (Financial Terms)

Accounting policies: Accounting policies are the specific accounting principles and the method of applying those principles adopted by the company in preparation and presentation of the financial statements.

Accrual: Financial statement is prepared on mercantile system. The effects of transaction and other events are recognised when they occur and they are recorded in the accounting records and reported in the financial statement of that period to which they relate.

Amortization: Amortisation is the systematic allocation of the depreciable amount of an intangible asset over its useful life.

Balance sheet: A balance sheet is a statement of the financial position of an entity which states the assets, liabilities, and owners' equity at a particular point of time

Bonus shares: Bonus shares are additional shares given to the shareholders without any additional cost out of free reserves, based upon the number of shares that a shareholder owns.

Book value: The amount at which an item appears in the books of account or in financial statements.

Buy back of shares: A buyback, also known as a share repurchase, is when a company buys its own outstanding shares to reduce the number of shares available in the open market.

Capital employed is calculated by subtracting Capital WIP, Intangible assets under development and Deferred tax assets from the entity's net worth.

Capital reserve: A reserve of an entity which is not available for distribution as dividend.

Capital redemption reserve: The Company has recognised Capital Redemption Reserve on buy back of equity shares from its general reserve. The amount in capital redemption reserve is equal to nominal amount of equity shares bought back.

Cash & cash equivalent: Cash comprises cash in hand and demand deposits. Cash equivalents are short term, highly liquid investments that are readily convertible to known amount of cash and which are subject to an insignificant risk of change in value.

Contract assets: Contract assets (deferred debts and unbilled revenue) represent the amount not yet due for payment as per contract terms / agreed schedule with customers. The same will be contractually due on completion of related activities / milestones.

Contract liability: An entity's obligation to transfer goods or services to a customer for which the entity has received consideration (or the amount is due) from the customer.

Contingent liability is:

- (a) possible obligation that arises from past events and whose existence will be confirmed only by the occurrence or non occurrence of one or more uncertain future events not wholly within the control of the entity; or
- (b) a present obligation that arises from past events but is not recognised because:
 - (i) it is not probable that an outflow of resources embodying economic benefits will be required to settle the obligation; or
 - (ii) the amount of the obligation cannot be measured with sufficient reliability.

Consolidated financial statements (CFS): Consolidated financial statements - are the "Financial statements of a group in which the assets, liabilities, equity, income, expenses and cash flows of the parent company and its subsidiaries are presented as those of a single economic entity.

Credit risk: The risk that one party to a financial instrument will cause a financial loss for the other party by failing to discharge an obligation.

Current ratio: The current ratio is a liquidity ratio that measure ability to pay short term obligation or dues within one year. It is calculated by dividing current assets to current liabilities.

Current asset: An asset shall be classified as current when:

- a) it is expected to realise the asset, or intended to sell or consume it, in its normal operating cycle;
- b) it is held primarily for the purpose of trading;
- c) it is expected to realise the asset within twelve months after the reporting period; or
- d) the asset is cash or a cash equivalent unless the asset is restricted from being exchanged or used to settle a liability for at least twelve months after the reporting period.

Current liability: A liability shall be classified as current when:

- a) it is expected to settle the liability in its normal operating cycle;
- b) it is held primarily for the purpose of trading;
- c) the liability is due to be settled within twelve months after the reporting period; or
- d) it does not have an unconditional right to defer settlement of the liability for at least twelve months after the reporting period.

Current tax expense: Current tax is the amount of income taxes payable (recoverable) in respect of the taxable profit (tax loss) for a period.

Deferred debts: Deferred debts are those debts which will become payable on completion of identified milestone like trial operation, PG test, etc. in terms of the contract.

Deferred tax: Deferred tax is calculated using the rates and tax laws that have been enacted or substantively enacted by the balance sheet date.

Deferred tax asset: Deferred tax assets are the amounts of income taxes recoverable in future periods in respect of deductible temporary differences, the carry forward of unused tax losses and the carry forward of unused tax credits.

Deferred tax liability: Deferred tax liabilities are the amounts of income taxes payable in future periods in respect of taxable temporary differences.

Defined benefits plans: Defined benefit plans are postemployment benefit plans other than defined contribution plans. Defined contribution plans are post-employment benefit plans under which an entity pays fixed contributions into a separate entity (a fund) and will have no legal or constructive obligation to pay further contributions if the fund does not hold sufficient assets to pay all employee benefits relating to employee service in the current and prior periods.

Dividend per share: It is calculated by dividing the total dividend (excl. dividend distribution tax) for the year to total number of outstanding equity shares.

Depreciation: Depreciation is the systematic allocation of the depreciable amount of an asset over its useful life.

Dividend distribution tax: This is an additional income tax paid by the company on any amount declared, distributed or paid by the company by way of dividends.

EBITDA means Earnings before interest, taxes, depreciation and amortization. Operational EBITDA is determined after excluding other income from EBITDA.

Earnings per share (EPS): It represent profit earned during the year to each share, calculated by dividing profit after tax to total number of outstanding equity shares.

Equity method: The equity method of accounting is used to determine the net income generated from the joint venture in proportion to the size of a company's investment in the venture.

The equity method is a method of accounting whereby the investment is initially recognised at cost and adjusted thereafter for the post-acquisition change in the investor's share of the investee's net assets.

Expected credit loss: The difference between all contractual cash flows that are due to an entity in accordance with the contract and all the cash flows that the entity expects to receive, discounted at the original effective interest rate.

Fair value: Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date.

Financial asset: Any asset that is (a) cash, (b) equity instrument of another entity, (c) a contractual right to receive cash or another financial asset from another entity or to exchange financial assets or financial liability with another entity (d) a contract that will or may be settled in the entity's own equity instruments.

Financial liability: Any liability that is (a) contractual obligation to deliver cash or another financial asset to another entity or exchange financial assets or financial liabilities with another entity or (b) a contract that will or may be settled in the entity's own equity instruments.

Financial instrument: Any contract that gives rise to a financial asset of one entity and a financial liability or equity instrument of another entity.

Financing activities: Activities that result in changes in the size and composition of the contributed equity and borrowings of the entity.

General reserves: General reserves are the retained earnings of a company which are kept aside out of company's profits to meet future (known or unknown) obligations.

Going concern: It means that entity has no intention for discontinuing the operation in foreseeable future.

Holding company: "holding company", in relation to one or more other companies, means a company of which such companies are subsidiary companies.

Impairment loss: An impairment loss is the amount by which the carrying amount of an asset or a cash-generating unit exceeds its recoverable amount. The recoverable amount of an asset or a cash-generating unit is the higher of its fair value less costs of disposal and its value in use.

Indian Accounting Standard (abbreviated as Ind-AS): Ind AS is the applicable accounting standard for preparation of financial statements as notified by Ministry of Corporate Affairs.

Intangible assets: An intangible asset is an identifiable nonmonetary asset without physical substance.

Inventory in number of days: It is calculated by dividing inventory to revenue multiplying by number of days in a year.

Investing activities: Investing activities are the acquisition and disposal of long-term assets & Investments.

Joint venture: A joint venture is a joint arrangement whereby the parties that have joint control of the arrangement have rights to the net assets of the arrangement.

Liquidity risk: The risks that an entity may encounter in meeting obligation associated with financial liabilities.

Market risk: The risk that the fair value or future cash flows of a financial instrument will fluctuate because of changes in market prices. Market risk comprises three types of risk: currency risk, interest rate risk and other price risk.

Net profit/(loss) margin (%): It represents profit generated as a percentage to revenue from operations, calculated by dividing profit after tax (PAT) to revenue operations.

Net realisable value: Net realisable value is the estimated selling price in the ordinary course of business less the estimated costs of completion and the estimated costs necessary to make the sale.

Net worth: The excess of the book value of total assets of an entity over its liabilities. This is also referred to as shareholders' funds.

Net worth per share: Net worth per share is calculated by dividing net worth with total number of outstanding equity shares.

Non-controlling interest (NCI): is the portion of equity ownership in a subsidiary not attributable to the parent company, who has a controlling interest (greater than 50% but less than 100%) and consolidates the subsidiary's financial results with its own.

Non-current asset: A non-current asset is an asset that is not likely to turn to unrestricted cash within one year of the balance sheet date.

Non-current liability: Non-current liabilities are those obligations not due for settlement within one year.

Other comprehensive income (OCI): Other comprehensive income comprises items of income and expense (including

reclassification adjustments) that are not recognised in profit or loss as required or permitted by other Ind ASs.

Operating activities: Operating activities are the principal revenue producing activities of the entity and other activities that are not investing or financing activities.

Operating profit margin (%): Profitability performance ratio used to calculate the percentage of profit generated by Company from its operations. It is calculated by dividing earnings before tax (PBT) excluding other income to revenue from operations.

Property, plant and equipment (PPE): Property, plant and equipment are tangible items that:

- (a) are held for use in the production or supply of goods or services, for rental to others, or for administrative purposes; and
- (b) are expected to be used during more than one period.

Revenue from operations: Gross inflow of economic benefits during the period arising in the course of ordinary activities of an entity when those inflows result in increases in equity, other than increases relating to contributions from equity participants.

Return on net worth (%): Return on net worth is a measure of profitability of a Company, calculated by dividing net profit to average net worth (excl. OCI & Capital reserves).

Right of Use Assets: An asset that represents a lessee's right to use an underlying asset for the lease term.

Trade receivables: A receivable is an entity's right to consideration that is unconditional. A right to consideration is unconditional if only the passage of time is required before payment of that consideration is due.

Cautionary Statement

Statement in the Annual Report, describing the Company objective, expectation or estimates are forward looking within the meaning of applicable laws and regulations. Actual result may differ materially from those expressed or implied, depending upon economic development, government policies and other incidental factors.