

**Bharat Heavy Electricals Limited**  
**ANNUAL** | 2016-17  
**REPORT**



Creating  of tomorrow

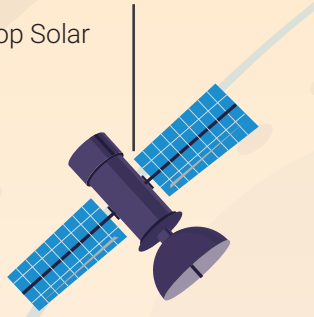


# Making in India...

since 1964

## RENEWABLE ENERGY

Solar PV Power Plants including  
Ground Mounted Solar & Roof-top Solar  
Space-grade PV Panels



## POWER

Power Generation plants  
including Thermal  
(upto 1000MW),  
Nuclear, Hydro & Gas.  
BoP & Auxiliary systems,  
Emission control equipment  
(ESP, FGD)

## TRANSPORTATION

Transportation systems,  
Locomotives, Propulsion  
systems & Electrics

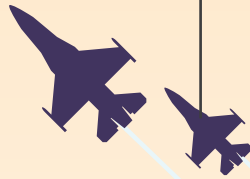
## TRANSMISSION

HVAC/HVDC systems, GIS  
AIS, Substation automation,  
FACTS solutions,  
Transmission products/systems  
upto 1200 kV



## DEFENCE & AEROSPACE

SRGM,  
Turret Casting for T72 tanks,  
IPMS, ACS,  
Compact heat exchangers,  
Space grade batteries



## INDUSTRY

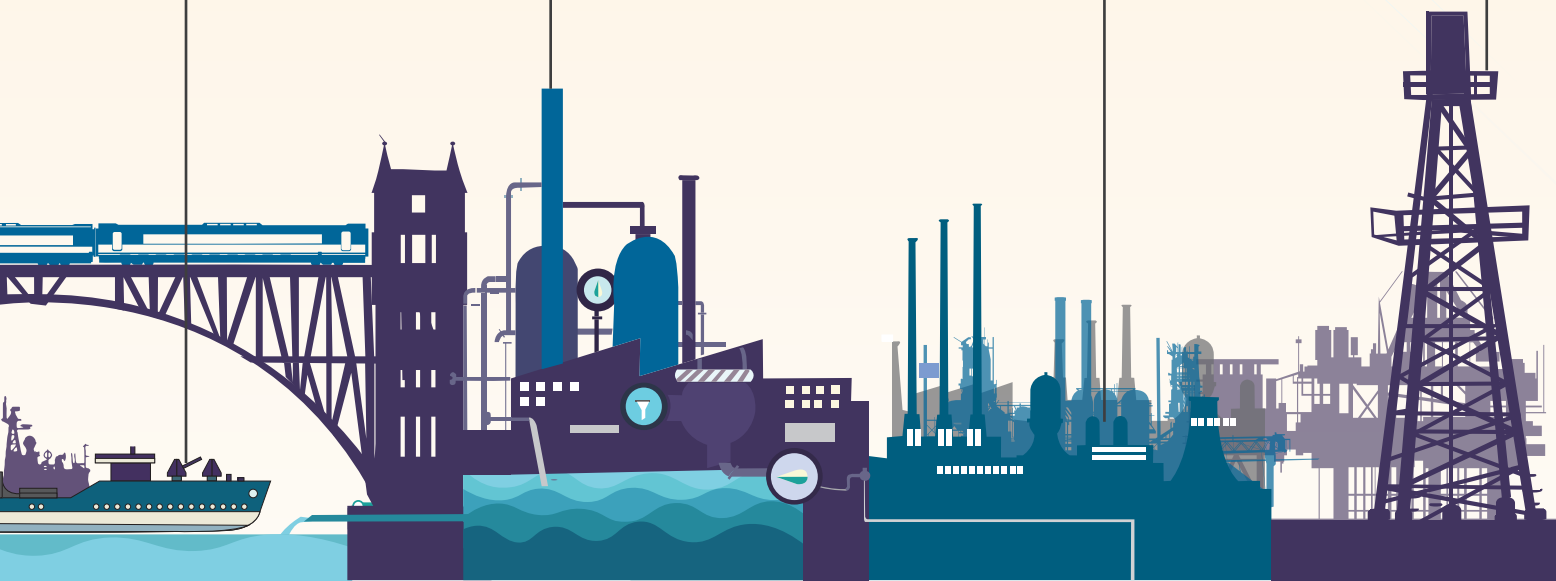
Electrical & Mechanical  
systems (Compressors,  
Pumps, Motors, etc.),  
Control & Automation  
systems for Fertilizer,  
Paper, Refining, Steel  
& Sugar industries

## WATER

Water Management  
Systems

## OIL & GAS

Oil Rigs & controls.  
Well Heads &  
Xmas Tree valves,  
Compressors





Despite security concerns and numerous challenges in the movement of men and material through difficult terrain, in the execution of the 3x14 MW Salma hydropower project, BHEL took up the work on war footing, and successfully commissioned all the three units. The project (renamed as Afghan-India friendship Dam) was jointly inaugurated by the Hon'ble Prime Minister of India, Shri Narendra Modi and Dr. Mohammad Ashraf Ghani, Hon'ble President of Afghanistan. BHEL's exemplary contribution in this project was recognised and CMD, BHEL was awarded a shield of appreciation by the Hon'ble Union Minister of External Affairs, and the Hon'ble Union Minister of Water Resources, River Development and Ganga Rejuvenation.

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# LETTER TO SHAREHOLDERS



## Dear Shareholders,

The Hon'ble Prime Minister of India, Shri Narendra Modi ji while giving the clarion call to create a 'New India' said, "There are 125 Crore people and if each one takes one step, then the country would be 125 Crore steps ahead". These words capture the essence of the fervour of 125 Crore Indians joining hands together to create a 'New India'. This is a journey and your company envisions playing a significant role in this journey. 40,000 employees of your company have together embarked on this journey and see it as an opportunity to create a new BHEL which is more responsive to the environment, has new sources of strength and has new streams of growth that make the company sustainably rising. Our persistent efforts in this journey enabled us to deliver both on growth and profitability in yet another year of challenging business environment. Going forward, our resolute focus will remain on managing the current momentum as well as on building capabilities for charting a higher growth path.

2017 also marks the 25<sup>th</sup> year of BHEL being a public listed company. This has been a very rewarding journey for the shareholders. On behalf of BHEL, let me first express profound gratitude to you, our shareholders, for continuously reposing faith in BHEL.

## The year that was...

Now, let us look at some of the achievements of your company in the year 2016-17:

- BHEL recorded a turnover of ₹ 28,840 Crore, a growth of 10.7% over the previous year—after reversing the declining trend of the last three years. The company also returned to profitability with a Profit Before Tax (PBT) of ₹ 628 Crore, compared to a loss of ₹ 1,164 Crore (IND-AS restated) in the last fiscal. Net Profit (PAT) stood at ₹ 496 Crore, against a net loss of ₹ 710 Crore (IND-AS restated) in the previous year.

... 'New India'... is a journey... BHEL envisions playing a significant role... 40,000 employees of your company... see it as an opportunity to create a new BHEL...

- Your company contributed 45,274 MW of power generation capacity during the 12<sup>th</sup> Five Year Plan

(2012-17), surpassing the government's target for BHEL by 9%, strongly complemented by our sustained focus on expeditious project execution.

- 8,570 MW of power generating equipment was commissioned/synchronised during the year. With this, the worldwide installed base of power generating equipment supplied by BHEL has exceeded 178 GW.
- BHEL secured the largest ever export order on EPC basis – the first-ever overseas contract valued over ₹ 10,000 Crore for setting up the 2x660 MW Maitree Thermal Power Plant (TPP) in Bangladesh, a result of our persistent efforts towards globalization.
- Your company booked orders worth ₹ 23,489 Crore during the year. This includes a major order from Power Grid Corp. of India Ltd. for ±800 kV, 6000 MW HVDC terminals associated with the HVDC Bipole link between the western and southern grid of India, 18x145 MW Palamuru Rangareddy Lift Irrigation Scheme stages 2&3 from Govt. of Telangana—having the largest rating of pump motor sets ordered for supply in India, and 57.6 MLD ultrafiltration water package order from NTECL Vallur TPS.
- With the highest total SPV power plant orders won during the year for 131 MW, your company's total solar portfolio now exceeds 370 MW.
- Despite security concerns and immense logistic barriers, BHEL successfully commissioned all the three units of the prestigious 3x14 MW Salma hydropower project (Afghan India Friendship Dam) in Afghanistan.
- With the commencement of commercial operation of the 2x800 MW Yeramaru TPS of RPCL, a joint venture of KPCL, BHEL and IFCI, your company has forayed into power generation now.
- With 76/62 mm Super Rapid Gun Mount (SRGM) and Auxiliary Control System (ACS) commissioned on INS Chennai, all the three ships of Kolkata-class stealth guided missile destroyers of the Indian Navy are now equipped with BHEL manufactured SRGM and ACS.
- BHEL is developing the first Advanced Ultra Super critical (AUSC) technology for higher efficiency thermal power plants, jointly with NTPC and IGCAR under the aegis of Government of India.
- Your company invested 2.75% of its turnover on R&D and the total intellectual capital of the company has enhanced to 3915 patents and copyrights.
- With an objective of expanding our value chain in the solar power, your company has expanded the manufacturing capacity of solar cells to 105 MW and of solar modules to 226 MW per annum.
- Your company would be paying a total dividend of 79% for the year 2016-17 that includes a final dividend of 39% subject to approval by the shareholders.

- The Board of Directors of your company has also recommended issue of bonus shares in the ratio of 1 bonus share for every 2 existing shares.

## The road ahead...

Forces of change like climate change, technology disruptions, fragile geopolitics, newer regulations, suboptimal investment from private sector and changing energy-mix are leading to emergence of newer challenges for your company. Initiatives taken by the government such as Ujwal DISCOM Assurance Yojana (UDAY), Goods and Services Tax (GST), push to 'Make-in-India' and visibility in resolution of stranded projects are very encouraging for sustained growth of the economy.

**For sustaining momentum of growth and profitability... focusing on expeditious execution of orders and implementing structural changes...**

All the same, we continue to march forward with zeal in our journey of 'Creating BHEL of tomorrow', a BHEL that is 'Responsive, Robust and Rising' to the needs of its stakeholders. We have already taken some important steps in this journey and have resolved ourselves for many more with focus on maintaining the current momentum of profitability, protecting the core business while building new capabilities, and diversifying by harnessing the emerging opportunities.

## Creating BHEL of Tomorrow: Sustaining momentum of growth

For sustaining momentum of growth and profitability, the company is focusing on expeditious execution of orders and implementing structural changes for making your company agile:

- Efforts are being made to convert stranded/slow-moving orders into executable ones. Around ₹ 12,000 Crore of non-executable orders have been made executable during the year.
- We have created customer focused business groups for nuclear, hydro, defence & aerospace, and transportation for strengthening diversification efforts. We have also consolidated various structures to increase organizational agility. Further initiatives will entail consolidation of smaller and consistently under-performing businesses and establishments.
- A dedicated 'Project Closure Synergy Group' has been created to ensure early closure of project sites, optimize manpower utilization, resolving outstanding issues with various stakeholders, and realizing cash.
- We have revised various company policies with focus on simplification and decentralization to eliminate low-value added activities and multiplicity of works.

**Creating BHEL of Tomorrow: Growth in medium term**

The key to growth in medium term is to protect leadership in the core business, reorient people strategy and harness digital technologies for higher value proposition:

**... key to growth in medium term  
is to protect leadership in the core  
business, reorient people strategy  
and harness digital technologies...**

- We are asserting leadership in the core business by enhancing value proposition in the existing portfolio. Developing new products and services such as emission control equipment, lift irrigation systems, enhanced offerings for nuclear power, and expanding spares and services business are complementing the efforts to expand our core business. Foray into power generation as a co-developer of 2x800 MW Yeramarus TPS is one of the strategies for capturing more business in the power value chain.
- We have taken various initiatives in response to changing demography of employees and the business mix which comprehensively cover all aspects of people development. Initiatives towards employee engagement and development in your company have been recognized in the business world by being adjudged as one of the 'Top 25 Best Companies to Work for' in India by the prestigious Business Today magazine—BHEL is the only PSU to figure in this distinguished list.
- 'Corporate Digital Transformation' group has been formed for developing capabilities in diagnostics and predictive maintenance services as a business opportunity and enhance productivity of our operations.

**Creating BHEL of Tomorrow: Foundation for long-term sustenance**

The foundation for long-term sustenance rests on strengthening the capabilities to innovate and on bringing more diversity in turnover both in business-mix and geographical-mix:

**...foundation for long-term  
sustenance rests on strengthening  
the capabilities to innovate and on  
bringing more diversity in turnover...**

- We continue to invest more than 2.5% of turnover on R&D and innovation. Current focus areas include the development of Advanced Ultra Supercritical (AUSC) technology which will reinforce your company's leadership towards supply of cleaner thermal power in the country, passive solar trackers, 1200 kV UHVAC transformers and reactors, and IGBT propulsion technology for ACEMU and DEMU.

- We are building a more diversified portfolio capitalizing on emerging opportunities in solar power, transportation, defence, aerospace and water business to increase the share of business from non-coal areas. Continuing with the strategy of building capacity and capability through in-house resources, and collaboration with global technology leaders, we have recently entered into a technology collaboration agreement with Kawasaki Heavy Industries Ltd., Japan for the manufacture of stainless steel coaches and bogies for Metro Rail.
- Export strategies are being aligned with global dynamics with focus on market expansion and market penetration. Execution of 2x660 MW Maitree TPP in Bangladesh, the first overseas power project of this rating and exacting parameters will open a stream of new opportunities in export markets.

**The journey continues...**

Finally, I would like to express my sincere gratitude to all our stakeholders: business partners including customers and vendors for showing faith in us, employees for their passion and commitment, members of the Board for their wisdom, members of the Management Committee for efficiently managing the company's resources and operations, and above all—you, our shareholders, for evincing trust in our ability to steer forward BHEL in these challenging times. Various ministries of Government of India, particularly the Department of Heavy Industry, have been providing valuable guidance and support to our efforts. Thank you all for your continued support that I greatly appreciate and cherish.

Your company has invested more than 50 years in the nation building endeavours. The current movement towards building a 'New India' also offers us encouraging prospects. Team BHEL believes that we have the technology strength, manufacturing prowess, committed manpower, and innovation ecosystem to contribute in this movement.

With renewed vigour, great confidence and relentless determination, we look forward to an exciting future ahead.

**Best wishes,**



**Atul Sobti**

Chairman & Managing Director

New Delhi

August 10, 2017

# LEADERSHIP AT BHEL

## Board of Directors

(As on 15.07.2017)



### Sitting from right to left

**Ms. Surama Padhy**  
Independent Director

**Shri Rajesh Kishore**  
Independent Director

**Shri Atul Sobti**  
Chairman & Managing Director

**Dr. Subhash Chandra Pandey**  
AS & FA, DIPP: Part-Time Official Director

**Shri A.N. Roy**  
Independent Director

### Standing from right to left

**Shri S. Biswas**  
Director (Engineering, R&D)

**Shri T. Chockalingam**  
Director (Finance)

**Shri Bhaskar Jyoti Mahanta**  
Joint Secretary, DHI : Part-Time Official Director

**Shri Akhil Joshi**  
Director (Power)

**Shri D. Bandyopadhyay**  
Director (Human Resources)

**Shri Keshav N. Desiraju**  
Independent Director

**Shri R. Swaminathan**  
Independent Director

**Shri Amitabh Mathur**  
Director (Industrial Systems & Products)

**Shri I.P. Singh**  
Company Secretary

# LEADERSHIP AT BHEL

## Management Team

(As on 15.07.2017)



**Atul Sobti**  
Chairman & Managing Director



**D. Bandyopadhyay**  
Director (Human Resources)



**Amitabh Mathur**  
Director (Industrial Systems & Products)



**S. Biswas**  
Director (Engineering, R&D)



**T. Chockalingam**  
Director (Finance)



**Akhil Joshi**  
Director (Power)



**M.K. Sharma**  
ED (CPP, PMG & Contract Closing), New Delhi



**R.K. Tiwari**  
ED (EDN), Bengaluru



**N R Edkie**  
ED (AUSC Project), Noida



**V.K. Chohan**  
ED (IO), New Delhi



**Dr. Umakant Choudhury**  
ED (CTM), New Delhi



**Sandeep Narang**  
ED (PE & SD), Hyderabad



**K. Purswani**  
ED (COM), New Delhi



**D.K. Singh**  
ED (PCSG), Noida



**J.C. Sharma**  
ED (PS-PEM), Noida



**S. Vaidyanathan**  
ED (Corp. Finance), New Delhi



**Praveen Bansal**  
ED (TBSG), New Delhi



**Rajeev Chawla**  
ED (PS-NR), Noida



**K.R. Bhardwaj**  
ED (PS-PMG), New Delhi



**Dr. Babu Lal**  
ED (CLD), Noida



**Anjan Mukhopadhyay**  
ED (PS-ER), Kolkata