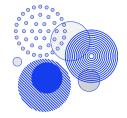
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TRANSFORMERS IN TRANSITION: MAPPING INDIA'S ₹40,000 CRORE MARKET OPPORTUNITY BY FY 26

India's transformer market will cross ₹40,000 crore by FY26, driven by rising demand, NEP targets, and replacements. A ₹75,000 crore opportunity is set to unfold over the next two fiscals.

KEY QUERIES

- What are the key demand growth drivers?
- What are the regional and State hotspots for Transformer Market?
- What are the OEM capacity & strategies for Indian Transformer Market?
- What are the policy & investment trends for the Transformer Market in India?



Market Research Report

Why is Eninrac's market research report on India's Transformer Market critical for decoding a ₹75,000 crore growth opportunity and mapping OEM competitiveness, policy drivers, regional demand hotspots, and the evolving T&D-modernization landscape shaping the sector's future?

Will India's transformer industry capitalize on rising T&D investments and renewable integration to build global competitiveness, or will challenges of scale, localization barriers, and pricing pressures restrict its growth potential?



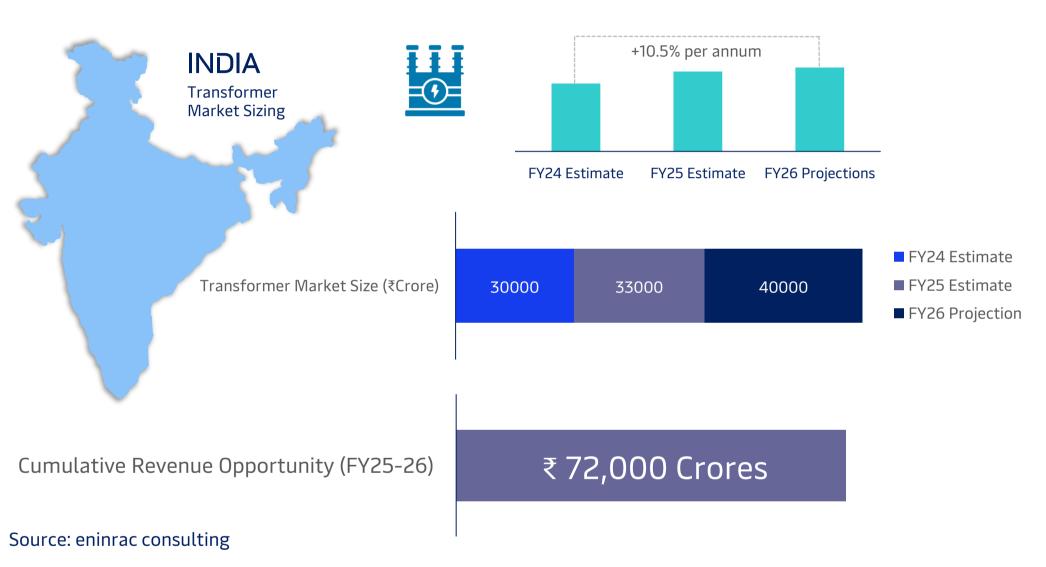
Why is a comprehensive assessment of India's transformer market dynamics critical to capturing the country's ₹40,000+ crore growth opportunity spanning transmission expansion, distribution modernization, and renewable integration, while informing strategic decisions for utilities, private developers, OEMs, and policymakers?

The Indian transformer market is poised to enter a decisive high-growth phase, with annual sales projected to surpass ₹40,000 crore in FY26, up from an estimated ₹33,000 crore in FY25. This translates into a healthy 10–11% year-on-year growth trajectory, underscoring the sector's centrality to India's evolving power ecosystem.

At the core of this growth are structural drivers that reinforce sustained demand for transformers across voltage classes and applications. On the supply side of electricity, India's generation capacity is witnessing rapid expansion—led not only by conventional coal and hydro additions but also by a massive build-out of renewable energy projects, which necessitate robust evacuation infrastructure. Parallelly, accelerated transmission and distribution (T&D) investments, particularly through programs such as GatiShakti, Revamped Distribution Sector Scheme (RDSS), and state-level network augmentation, are creating significant opportunities for OEMs.

A further demand boost is expected from the replacement cycle, as a large installed base of transformers—many over two decades old—reaches the end of its economic life. This cycle is increasingly intertwined with efficiency mandates, where utilities seek to replace aging, loss-prone equipment with energy-efficient, digitally enabled transformers. Beyond the domestic market, India's potential to emerge as a manufacturing and export hub adds another layer of opportunity, driven by competitive costs, policy support for localization, and rising global demand for gridstrengthening equipment. Taken together, these factors establish the transformer industry as a ₹40,000+ crore market opportunity by FY26, with strong prospects for both established OEMs and new entrants.

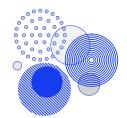
Exhibit 01 Indian Transformer Market - Overview



Eninrac View: The CAGR of ~10% places transformers among the faster-growing equipment categories within power T&D, particularly given the alignment with National Electricity Plan (NEP) 2022–27 targets.

Demand Drivers - Transformers in India

The demand for transformers in India is being propelled by a combination of structural and cyclical factors in the power sector. Rapid capacity addition in generation, especially from renewable sources, is creating the need for efficient evacuation and grid integration infrastructure. **Accelerated transmission and distribution (T&D) investments**, supported by government programs such as **RDSS and GatiShakti**, are expanding and modernizing the network. Additionally, India is entering a significant replacement cycle, with aging transformers being phased out for more energy-efficient, digitally enabled units.



What are the key demand drivers fueling growth in India's transformer market, and how are they reshaping the outlook for FY25-26 and beyond?



India's transformer market is poised for sustained growth, driven by a confluence of structural and cyclical demand factors. On the structural side, rising electricity demand, fueled by urbanization, industrial expansion, and the push toward **24x7 reliable power**, is creating a strong baseline requirement for new transformers across transmission and distribution networks. The government's **accelerated investments in T&D infrastructure**, particularly under schemes like Revamped Distribution Sector Scheme (RDSS) and Green Energy Corridors, are further augmenting capacity additions.

In parallel, the country is entering a **replacement and refurbishment cycle**, with aging transformers in state utilities and industrial clusters needing upgrades to meet higher efficiency and reliability standards. Additionally, **the rapid expansion of renewable energy projects** and the emergence of **Battery Energy Storage Systems (BESS)** are reshaping grid dynamics, requiring advanced transformer technologies to manage intermittency and improve stability. Together, these drivers are expected to push the Indian transformer market beyond **₹40,000 crore** by FY26, while opening opportunities for OEMs to diversify into smart, **high-efficiency**, **and export-oriented solutions**.

Looking ahead, electrification of transport, data center expansion, and industrial corridors under initiatives like *Make in India* are set to create new hotspots of demand. Moreover, the integration of digital monitoring and IoT-enabled smart transformers is becoming critical as utilities prioritize grid reliability and predictive maintenance. With these strong tailwinds, India is not only strengthening its domestic transformer ecosystem but also positioning itself as a global supply hub for emerging markets. The upcoming carbon-neutral and net-zero transition targets will also necessitate widespread grid modernization, creating demand for energy-efficient transformers. At the same time, favorable financing conditions and PLI incentives for domestic manufacturing are expected to reduce import reliance and spur local capacity growth. Furthermore, cross-border electricity trade with neighboring countries will expand interconnection needs, amplifying transformer requirements. In essence, India's transformer market is at the cusp of a decade-long growth runway, shaped by policy thrust, technology adoption, and global positioning.

Exhibit 02 Demand Drivers – Transformer Market in India



1

Renewable energy, particularly solar and wind, will add most of the incremental capacity, creating demand for evacuation



<u>X</u>

infrastructure.

Rising Peak Load for India

2

This sharp demand curve accelerates the need for **high-capacity transmission corridors** and **distribution strengthening**, both transformer-intensive.







NEP Target & Gap

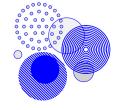
3

Gap Analysis: Over **1.2 million MVA** of additional capacity must be added in the next two years.

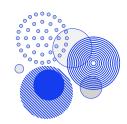
Source: eninrac consulting

1847280 MVA FY 27 (MVA)

Current achievement: only **30%** of target reached by FY25









Replacement Demand of Transformers

- Transformers installed during 2000–
 2005 are reaching their 25-year lifecycle
- This represents nearly 15–20% of the installed base, translating into significant replacement orders.



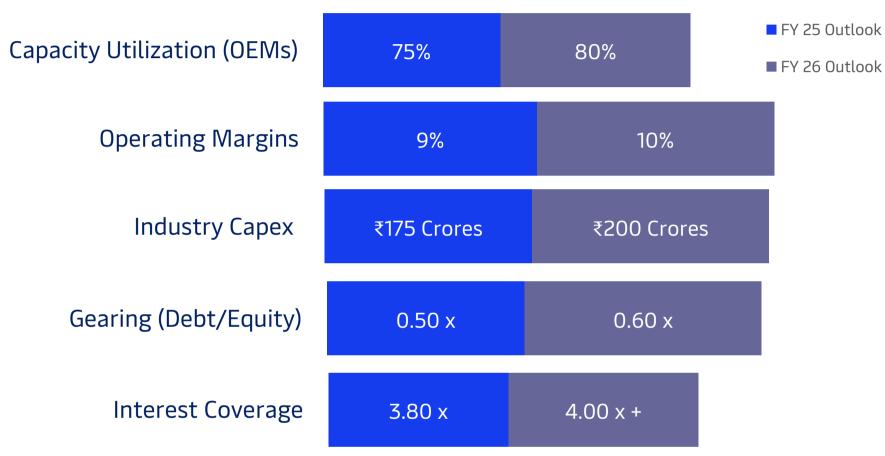
Source: eninrac consulting

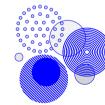
How will demand translate into financial stability and operational efficiency for OEMs?

The financial and operational outlook for India's transformer industry underscores a phase of healthy stability alongside measured expansion. Capacity utilization among OEMs is expected to rise from ~75% in FY25 to over 80% by FY26, reflecting robust demand pipelines backed by T&D investments and replacement orders. This improvement in utilization directly supports operating leverage, enabling manufacturers to sustain margins in the 8–10% range, despite competitive bidding environments.

Industry-wide capital expenditure is projected to increase from ~₹150–200 crore in FY25 to beyond ₹200 crore in FY26, as OEMs scale manufacturing capacity and upgrade technology to meet higher demand. Importantly, this investment is being undertaken with a conservative financial posture. Gearing levels are expected to remain contained at 0.6×, while interest coverage will strengthen to over 4×, highlighting the ability of companies to comfortably manage debt obligations without compromising liquidity.

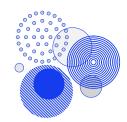
Exhibit 03: Financial & Operational Landscape for India's Transformer Industry





Source: eninrac consulting

Such resilience is further anchored by relatively lean balance sheets and improved cash flows from order executions. With utilities and infrastructure developers accelerating project rollouts under the NEP framework, cash inflows are anticipated to improve, thereby reducing dependency on external financing. Eninrac Insight: The sector's ability to balance growth-linked capex with prudent financial discipline positions OEMs strongly for the next phase of expansion. Rising utilization and stable margins will not only protect profitability but also enhance credit profiles. This ensures the transformer industry remains well-capitalized to capture the unfolding ₹75,000 crore opportunity over the next two fiscals.



How is the competitive landscape evolving in India's transformer market?

India's transformer industry is characterized by a layered competitive structure, with public sector enterprises (such as BHEL and NTPC subsidiaries), established private majors, and global OEMs all carving out distinct positions. Public sector units continue to command strength in large utility projects due to their institutional legacy and policy alignment, while private players dominate in execution agility, cost efficiency, and expanding presence in export markets. Global OEMs, meanwhile, leverage advanced technology and design capabilities to capture the premium segment, particularly in high-voltage and specialty applications.

As the market heads toward the ₹40,000 crore mark by FY26, competition is no longer defined solely by pricing pressures. Execution capability—especially the ability to deliver large-scale orders on time amid tight grid expansion schedules—has emerged as a key differentiator. This has tilted the balance in favor of players with strong supply chain integration, diversified manufacturing footprints, and digitalized project management practices.

Technological differentiation is also sharpening the landscape. OEMs investing in energy-efficient, digitally enabled transformers are better placed to align with discoms' push for reliability and reduced AT&C losses. Pricing, while still decisive in tenders, is increasingly being weighed against lifecycle costs and service quality. Furthermore, the industry's consolidation trajectory suggests that mid-tier firms may either scale up through capex and partnerships or risk being marginalized in a market tilting toward larger, financially stronger incumbents. In this context, strategic collaborations, export market penetration, and after-sales service offerings are expected to emerge as critical levers of competitive advantage.

Emerging Indian OEMs

Smaller domestic manufacturers play a vital role in niche and regional markets, demonstrating agility in serving **smaller distribution transformer demand** and providing quick turnaround solutions. Yet, their **limited scale and financing capabilities** restrict their participation in large-scale T&D expansion projects.

Exhibit 03: Indian Transformer Market Share (Estimated) (FY25-26)

5

TBEA/Shandong (Chinese OEMs): Chinese players like TBEA and Shandong have established a foothold in HVDC and high-capacity transformers, largely due to competitive pricing and proven execution in large-scale projects.



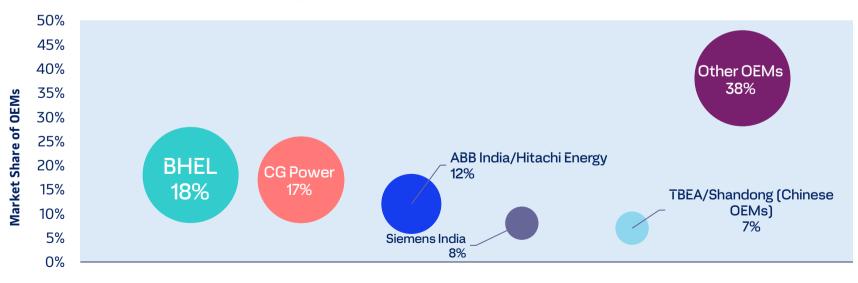
Siemens India: Siemens' advantage lies in its integration across EPC and T&D projects, combined with advanced grid technology solutions.

BHEL: BHEL remains a dominant player in the large power transformer segment, leveraging its PSU heritage, wide-scale manufacturing base, and established relationships with central and state utilities.

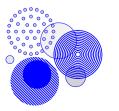
CG Power & Industrial Solutions: CG Power has consolidated its position as a leading manufacturer in distribution transformers, with a diversified product base that enables it to serve both domestic and export markets. Its extensive distribution network adds resilience.

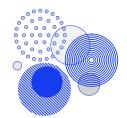
ABB India / Hitachi Energy: As a technology leader in high-voltage transformers and advanced grid solutions, ABB India and Hitachi Energy offer strong global expertise, including in digital and smart transformers. Their capability to cater to export markets further strengthens their positioning.

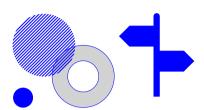
Eninrac Insight: The competitive dynamics suggest that while PSU and established private players will dominate large orders, global OEMs will leverage technology edge, and smaller Indian OEMs will serve regional opportunities. Strategic alliances, localization initiatives, and product innovation will define the winners in the ₹75.000 crore opportunity landscape.



Source: eninrac consulting







Key Signpost – How Rising Grid Investments and Replacement Demand Are Set to Transform India's ₹40,000 Crore Transformer Market by FY26?

Resilient, Digitalized, and Grid-Ready – Next-Gen Transformers to Power India's ₹40,000 Crore T&D Expansion by FY26

Transformers form the backbone of India's power sector, enabling reliable, efficient, and scalable electricity transmission across the grid. As T&D networks expand and modernization accelerates, next-gen transformers with higher efficiency, digital monitoring, and enhanced durability are becoming pivotal. With rising replacement demand, grid integration needs, and technology upgrades, the transformer industry is set to play a central role in supporting India's ₹40,000 crore power infrastructure push by FY26.



For Developers

- First-mover advantage in capacity expansion to cater to rising demand from **T&D** investments, renewable integration, and large-scale replacement cycles.
- Greenfield opportunities in manufacturing highefficiency, digital, and smart transformers to align with India's grid modernization and smart metering initiatives.
- Technology localization potential through partnerships with global OEMs for advanced materials, digital monitoring systems, and energy-efficient designs tailored to Indian grid conditions.



For OEMs

- Scale domestic production of advanced transformers across power, distribution, and specialty categories to meet rising T&D and renewable integration demand.
- Leverage PLI and 'Make in India' schemes to support local manufacturing of key transformer components such as CRGO steel, copper windings, and insulation materials.
- Import substitution potential for high-value inputs like on-load tap changers, bushings, high-grade laminations, and smart monitoring systems.



For Material Innovators & R&D Institutions

- Strong IP opportunity in developing advanced insulating materials, amorphous/nanocrystalline cores, hightemperature superconducting windings, and eco-friendly transformer fluids tailored for Indian grid conditions.
- Government and corporate R&D funding accessible through schemes under the Ministry of Power, DST, and collaborative programs with utilities for grid modernization and energy efficiency.

For Developers

- Design and construct India's expanding transmission backbone by supplying high-capacity power and distribution transformers for interstate and intra-state grid projects.
- New business lines in advanced transformer systems such as digital/smart transformers, high-voltage direct current (HVDC) units, and energy-efficient designs aligned with renewable integration.
- Opportunity to build capabilities in upgrading existing grid infrastructure through retrofitting, refurbishment, and replacement of aging transformer fleets to meet modern efficiency and reliability standards.





- Power Transmission & Distribution Utilities (PGCIL, State Discoms, RE transmission developers)
- Renewable Energy Project Developers (Solar, Wind, Hybrid, RTC projects requiring evacuation infra)
- Industrial & Commercial Consumers (Steel, Cement, Data Centers, Railways, EV Charging Infra)
- Transformer OEMs & Component Manufacturers (BHEL, ABB/Hitachi, Siemens, CG Power, KEC)
- Smart Grid & Digital Solution Providers (IoT, AI-based monitoring, predictive maintenance)
- EPC Contractors (transmission, substation, and grid modernization projects)
- Raw Material Suppliers (CRGO steel, copper, insulation oils, nanocrystalline cores)
- Export Market Buyers (Africa, Middle East, Southeast Asia utilities)
- Government & Regulatory Bodies (CEA, MNRE, MoP, BIS)
- Institutional Investors & Infrastructure Funds (pension funds, sovereign funds, power-focused PE players)

RE, MoP, BIS)

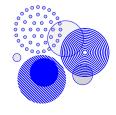


- BHEL (Bharat Heavy Electricals Ltd.)
- CG Power and Industrial Solutions Ltd.
- Siemens India
- Hitachi Energy India (formerly ABB Power Products & Systems India)
- GE T&D India Ltd.
- Schneider Electric India
- Toshiba Transmission & Distribution Systems (India) Pvt. Ltd.
- Emco Ltd.
- Kirloskar Electric Company Ltd.
- Voltamp Transformers Ltd.
- Indo Tech Transformers Ltd.
- Transformers & Rectifiers (India) Ltd.
- Diamond Power Infrastructure Ltd.
- Lakshmi Electrical Control Systems Ltd
- AT&S Transformers
- Powergear Ltd.
- Kaycee Industries Ltd.
- Jackson Power Solutions
- Easun Reyrolle Ltd.
- Best Transformers Ltd.



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- Arthur Schopenhauer

About Eninrac

Eninrac Consulting is a global market research and advisory firm that specializes in providing comprehensive insights and strategic solutions across various industries. Our services are designed to help businesses navigate market complexities, identify growth opportunities, and achieve sustainable success.

Eninrac's USP lies in its ability to deliver pragmatic, data-driven solutions tailored to the unique needs of each client. By maintaining close collaboration and adopting a hands-on approach, they ensure that their insights are actionable and aligned with clients' strategic objectives. This personalized guidance through diverse markets and cultures sets them apart in the consulting landscape. By leveraging the services offered, Eninrac Consulting empowers businesses to improve processes, understand customers, and solve problems effectively, thereby driving growth and maintaining a competitive edge in their respective industries.

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2024 marks our 5th anniversary as a performance leader, delivering superior research and advisory services.