Investorstack Research Report

Transformers & Rectifiers India Ltd

what transformers & rectifiers india does

transformers & rectifiers india makes power transformers. that's it. but these aren't ordinary transformers - they make the massive units that sit at the heart of electrical grids, converting electricity from one voltage to another so it can travel hundreds of kilometers and then be stepped down for homes and factories.

the company started in 1994 when jitendra mamtora saw india's power sector opening up. he built a small transformer unit in ahmedabad. today, taril operates three plants around ahmedabad and has become india's second-largest transformer manufacturer by capacity. they make everything from small distribution transformers to massive 765 kv units that weigh hundreds of tons.

what makes their products special is the engineering complexity. a 500 mva, 400 kv transformer costs around rs 32 crore and takes 35 days to manufacture. these units must withstand lightning strikes, short circuits, and decades of operation without failure. the company employs 1,200 people, many of whom are engineers who understand the electromagnetic physics that keeps the grid stable.

the real value proposition is reliability. when a major transformer fails, entire cities can go dark. taril has built a reputation for making transformers that don't fail, which is why utilities pay premium prices and wait 18-24 months for delivery rather than risk buying from cheaper, unproven suppliers.

business segments

taril operates as a single business segment - power transformers. but within this, they serve distinct markets that require different capabilities.

utility transformers (45% of order book) serve state electricity boards and power grid corporation. these customers buy through tenders, require extensive testing, and pay retention money that gets released after project completion. the sales cycle is 12-18 months, but orders are large - the company recently won a rs 740 crore order from getco, the largest single order in its history.

industrial transformers (55% of order book) serve steel plants, refineries, and epc contractors. these include furnace transformers for steel melting, rectifier transformers for chemical plants, and special duty transformers for infrastructure projects. margins are typically better than utility business because these customers value reliability over price.

within the product mix, 70% of orders are for 220 kv and above transformers - the high-voltage segment where technical barriers are highest. only a handful of indian companies can make these units, which is why taril focuses here rather than competing in the commoditized low-voltage market.

products and business detail

taril's product range spans the entire transformer spectrum. they make power transformers up to 1,200 kv rating - among the highest voltages manufactured globally. they make distribution transformers that step power down for local delivery. they make furnace transformers that handle the massive current surges when steel mills melt scrap metal. they make rectifier transformers that convert ac to dc for chemical plants and railways.

the manufacturing process is capital intensive. the company currently has 40,000 mva of capacity across three plants in ahmedabad. they're expanding this to 75,000 mva through two projects: 15,000 mva at changodar (operational by q1 fy27) and 22,000 mva at moraiya (operational by q2 fy27).

the technical requirements are formidable. transformers must pass short-circuit tests that simulate lightning strikes. they must operate for 35+ years in extreme weather. they require specialized materials - crgo steel for cores, copper conductors, and insulating materials that can withstand 400,000 volts. the company recently became the first indian company to receive an hvdc repair order from powergrid, marking their entry into the most sophisticated segment of the market.

quality certifications are extensive. each transformer must pass type tests, routine tests, and special tests as per is/iec standards. the testing facilities alone cost hundreds of crores. customers often send inspectors who stay for weeks during manufacturing. this creates switching costs - once a utility qualifies a supplier, changing requires re-qualification that can take years.

customers

taril's customer base reflects the structure of india's power sector. state electricity boards remain the largest buyers - gujarat, maharashtra, rajasthan and other states that need to expand their grids as renewable energy capacity grows. powergrid corporation of india buys the ultra-high voltage units for interstate transmission. ntpc and other generators need step-up transformers for their power plants.

the industrial segment includes steel makers like tata steel and jspl who need furnace transformers that can handle 100+ ka currents. epc contractors like l&t and kptl buy transformers for infrastructure projects. these customers often need custom designs - a steel mill might need a 220 kv transformer that can handle frequent load variations, while a solar plant needs transformers optimized for dc-ac conversion.

the buying process varies by customer type. utilities issue tenders with detailed specifications, evaluate bidders on technical and commercial parameters, and typically place orders 12-18 months before delivery is needed. industrial customers often negotiate directly, focusing on technical capability and delivery schedules. export customers - primarily in africa, middle east and southeast asia - buy through epc contractors and typically want faster delivery.

customer concentration is moderate. the largest single order (rs 740 crore from getco) represents about 15% of the order book, but no single customer dominates. this diversification reduces risk - when one state reduces capex, others typically increase spending.

competitive landscape

india's transformer industry has two tiers. the top tier consists of companies that can make 220 kv and above transformers - taril, bharat bijlee, kirloskar electric, emco, and asea brown boveri. these companies compete on technical capability, delivery track record, and after-sales service rather than just price.

the second tier makes lower voltage transformers where competition is intense and margins thin. chinese imports have captured significant share here, though recent government policies restrict participation of chinese companies in critical infrastructure.

taril's competitive advantage lies in execution capability. they delivered 29,118 mva in fy25, the highest production in company history. they have the testing facilities and track record that utilities trust for critical applications. their backward integration into crgo steel processing gives them cost advantages and supply security that competitors lack.

new entrants face significant barriers. making 400 kv transformers requires specialized winding machines, testing facilities, and most importantly, a track record of successful operations. utilities won't qualify new suppliers without seeing 3-5 years of reliable performance. the qualification process itself takes 18-24 months and requires extensive testing.

the competitive dynamic is changing as demand grows. capacity is expanding across the industry, but demand is growing faster. the central electricity authority estimates india needs 381 transformers of 220 kv and above in the next six years, plus 193 reactors. current domestic capacity is less than half this requirement.

industry

india's transformer industry is experiencing unprecedented demand. the government's target of 500 gw renewable capacity by 2030 requires massive grid expansion. solar and wind plants need collection systems, step-up transformers, and transmission lines to connect to the grid. every 1 gw of renewable capacity needs 8-10 large transformers.

the industry structure favors established players. transformers are critical infrastructure - failure can cause blackouts affecting millions. utilities therefore prefer proven suppliers even at higher prices. the government's "make in india" push and restrictions on chinese companies have created favorable conditions for domestic manufacturers.

technology is evolving toward higher voltages and smart features. 765 kv transmission is becoming standard for interstate power transfer. hvdc (high voltage direct current) systems are being deployed for long-distance transmission. these trends favor companies like taril that invest in r&d and testing facilities.

the replacement market is emerging as an opportunity. transformers older than 35 years need replacement, and india's 400 kv and 765 kv networks are 15-20 years old. this creates a steady stream of replacement demand alongside new installations.

growth triggers

- 15,000 mva capacity expansion at changodar facility operational by q1 fy27 (q2 fy26 concall, nov 2025)
- 22,000 mva capacity expansion at moraiya facility operational by q2 fy27 (q2 fy26 concall, nov 2025)
- crgo processing unit acquisition completed, providing 100% backward integration for critical raw material (q4 fy25 concall, apr 2025)
- hvdc repair order from powergrid received - first indian company to get such order (q3 fy26 concall, jan 2026)
- total manufacturing capacity to reach 75,000 mva by fy27 from current 40,000 mva (q4 fy25 concall, apr 2025)
- targeting rs 8,000 crore order book by fy27 end, up from rs 5,500 crore currently (q3 fy26 concall, jan 2026)
- backward integration facilities for bushings, ctcp, pressboard and fabrication to commission between q1-q4 fy27 (q3 fy26 concall, jan 2026)
- targeting usd 1 billion (rs 8,000 crore) revenue by fy29 through capacity expansion and backward integration (q3 fy26 concall, jan 2026)

> *"by close of this year, we will have inr 8,000 crores order book in hand... we are very confident that with the, when we close this year, we will have inr 8,000 crores order book in hand" - satyen mamtora, md (q3 fy26 concall, jan 2026)*

> *"these projects will take our total manufacturing capacity to 75,000 mva, enabling us to cater the rising demand from all the corners of the industry" - chanchal rajora, cfo (q4 fy25 concall, apr 2025)*

key risks

raw material supply chain vulnerability - the company faced significant disruption in q2 fy26 when copper conductor imports got stuck at ports due to bis certification requirements. 12 jobs worth significant revenue were delayed. while they plan backward integration, they remain dependent on imports for critical components like bushings and ctcp (continuous transposed conductors).

execution delays from site readiness - the company couldn't recognize rs 100 crore of revenue in q2 fy26 because customer sites weren't ready to receive transformers. this isn't taril's fault but affects their financial performance. with 24-28 month order execution cycles, any delay cascades through the system.

working capital intensity - the business requires high working capital with receivables at 120+ days including retention money. while this has improved from 156 days, it remains elevated. the company targets 200 days eventually, but this is still capital intensive for a manufacturing business.

competitive pressure as capacity expands - multiple companies are adding transformer capacity. while demand currently exceeds supply, margins could compress when capacity catches up. the company already reports pressure to limit order book to 18 months execution to maintain pricing discipline.

regulatory and compliance risks - the company faced a world bank debarment notice (though they claim it's resolved) and had to change auditors. any compliance issues could affect their ability to participate in government tenders, which form 45% of their order book.

walk the talk

taril's management has established a pattern of setting ambitious targets and generally delivering, though with some flexibility on timelines.

they committed to rs 2,000 crore revenue for fy25 and delivered rs 2,051 crore, exceeding guidance. they guided for 16-17% ebitda margins and achieved 16.12% for the year. they promised to reduce debt-to-equity from 0.84x to below 0.2x and delivered 0.2x.

the capacity expansion timeline has shifted. the 15,000 mva changodar expansion was supposed to be operational by may 2025 (as guided in apr 2025) but got delayed to q1 fy27 due to monsoon and equipment delivery issues. the 22,000 mva moraiya expansion remains on track for q2 fy27.

the order book target of rs 8,000 crore by fy27 end has been consistently maintained across multiple concalls. they started fy26 with rs 5,100 crore order book and are confident of reaching rs 8,000 crore by adding rs 3,000+ crore in q4 fy26.

the usd 1 billion revenue target by fy29 has remained unchanged since first articulated. this requires achieving rs 8,000 crore revenue, implying they need to quadruple from fy25 levels. management remains confident despite the scale of expansion required.

> *"our long-term vision to become a us$1 billion revenue company within next 3 years remains intact" - satyen mamtora, md (q4 fy25 concall, apr 2025)*

scenarios

bull case

india's renewable energy push accelerates beyond current targets, requiring even more grid infrastructure. taril successfully commissions all capacity expansions by fy27 and captures disproportionate share of the 381 transformers that central electricity authority says india needs. their backward integration strategy works perfectly, giving them 2-3% margin advantage over competitors. they successfully enter the hvdc market and become one of three qualified suppliers for india's interstate transmission projects. revenue reaches rs 8,000 crore by fy29 with 18-20% ebitda margins as they gain pricing power in a supply-constrained market.

base case

the company executes its capacity expansion largely as planned, though with typical 3-6 month delays. india's transformer demand grows at 15% as guided, and taril maintains market share. they achieve rs 8,000 crore revenue by fy29 but margins stay in the 16-17% range as competition intensifies. the backward integration provides operational benefits but limited margin expansion. they remain a strong regional player but don't break into the top tier of global transformer manufacturers.

bear case

the capacity additions by taril and competitors create oversupply in the transformer market by fy28. chinese companies find ways to participate in indian tenders, increasing competitive pressure. raw material supply chain issues persist despite backward integration efforts. the company's working capital requirements increase as customers delay payments in a weaker economy. revenue growth slows to 10-15% and margins compress to 12-14% as the industry becomes commoditized. the usd 1 billion revenue target gets pushed to fy30 or beyond as execution challenges mount.