

Triveni Turbines operates in the industrial steam turbines market below 100 MW, and this segment is marginally down (CAGR of -0.1% p.a.) during 2012-2022. Within this, the <30 MW or smaller range, the market has registered a CAGR of 1.2%. And in the 30.1 to 100 MW range, the market has seen a decline of 1.1% CAGR.

In 2022, the <100 MW global steam turbine market declined 30% year-on-year to 8.8 GW, majorly due to lower demand from China on account of continued lockdowns along with Russia.

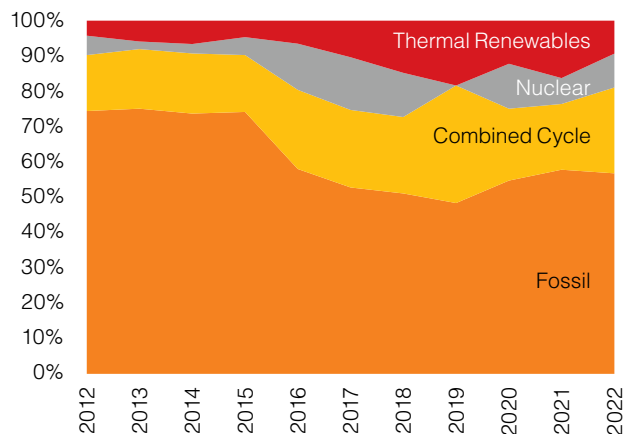
### Triveni Turbines is among the Top two players globally in <100 MW segment

In the last decade, Triveni Turbines, has outperformed broader market trends owing to the increasing demand for steam turbines in its addressable markets as well as expansion in the Company's market share. Triveni Turbines' market leadership has been built on a foundation of strong and continuously evolving research, development and engineering capabilities. The customer-centric approach to R&D, along with a keen focus on delivered product and life-cycle cost has allowed Triveni Turbines to set benchmarks for efficiency, robustness and up-time of the turbine. As a result, the Company is among the top 2 globally in a technically challenging field dominated by large multinationals. The Company has also benefited from a dominant position in the renewable-fuel based segments such as biomass-based power production, Waste to Energy (WtE), Waste Heat Recovery.

### Thermal renewable fuel-based power generation increasing

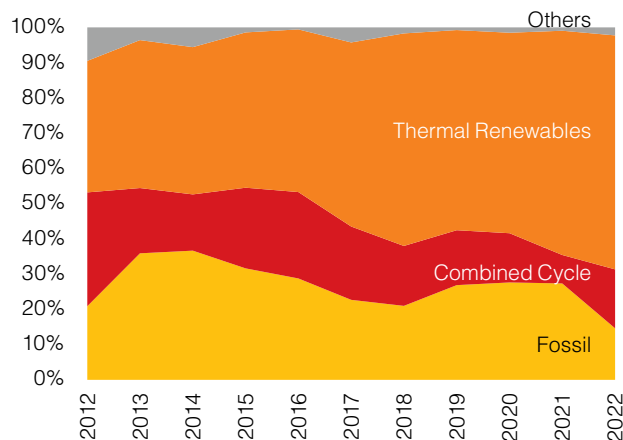
In the last 10 years, in the overall steam turbine market, fossil fuel-based power generation, previously the main source of fuel, declined to 57% in 2022 from 74% in 2012, whereas thermal renewable fuel-based power generation increased to 9% in 2022 from 4% in 2012.

### Global Steam Turbine Market, By Fuel



However, unlike the global steam turbine market where fossil fuel dominates, in the <100 MW range, where Triveni operates the growth of thermal renewables has been quite consistent and strong. The share of thermal renewable fuels is quite significant, at 66% in 2022 compared to 37% in 2012. In contrast, the share of the fossil fuel declined to 15% in 2022 from 21% in 2012.

### Global Steam Turbine Market (<100 MW range), By Fuel



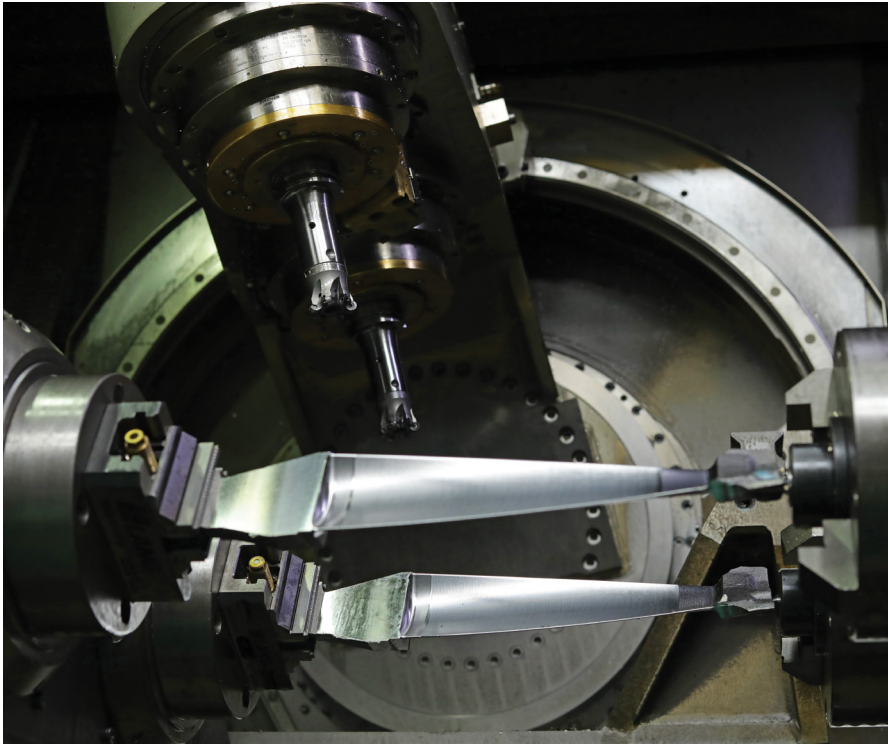
Source: Mc Coy Report 2022

### INDIAN STEAM TURBINE MARKET OVERVIEW

In 2022, the Indian Steam Turbine market for sub-100 MW range grew 15% (in MW terms) over 2021, whereas the sub-30 MW range grew 22% (in MW terms) over 2021. The demand for heat and power from the industrial segment was the key factor contributing to the rebound in the Steam Turbine market to the 2019 levels.

The market was primarily driven by thermal renewable based power plants (including biomass, waste heat and WtE), followed by fossil fuel fired power plants. Majority of the steam turbines' requirement in 2022 came from power generation applications (using MSW, biomass, waste heat and fossil as the fuel), and from energy-intensive segments like Steel, Cement, besides segments like Sugar, Distillery, Food Processing, Pulp and Paper, Chemicals and Oil & Gas for Combined Heat and Power applications.

With the manufacturing sector on a growth trajectory, the demand for steam turbines is expected to remain robust in the future, owing to investments for increasing the production capacities among industries such as Sugar, Distillery, Steel, Cement, Pulp and Paper, Food Processing and Chemicals, among others.



The overall product order booking for FY 23 went up by 22% compared to the previous fiscal and reached ₹ 11.43 billion. This is the highest order booking ever in the history of the Company. Order booking for the product segment has grown at an impressive CAGR of 13% from FY 18 to FY 23.

## PRODUCT BUSINESS REVIEW

### Order Booking

Despite uncertainty in the global economy, the Company performed well in terms of overall order booking in FY 23. Finalisation of orders from industrial customers, followed by power producers (along with extended scope offerings) and API drive turbines, led to the higher order booking growth YoY.

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In the domestic market, the Company registered product order booking growth of 38% compared to the previous fiscal. Key segments of this order intake in FY 23 were Sugar, Distillery, Food Processing, Pulp & Paper, Chemicals and Waste Heat Recovery (comprising Steel and Cement).

In the international market, the Company registered product order booking growth of 7% compared to the previous fiscal. We were able to close some key milestone orders in both small and large power ranges regions like Europe, Africa, Central & South America and North America.

### Enquiry Generation

Overall enquiry generation increased 41% YoY in FY 23. Domestic enquiry generation declined by 16% YoY, with the West region garnering the highest enquiry base followed by the South and North regions. In terms of segments, Sugar and Distillery combined contributed the most to the enquiry base, followed by Process industries comprising Food Processing, Pulp & Paper, Chemicals etc., followed by Steel, Cement, IPPs and Oil & Gas (API – Drive Turbines).

International enquiry generation increased by 82% YoY compared to FY 22. Europe generated more enquiries, followed by Southeast Asia and Turkey. Among segments, IPP was the biggest contributor to the enquiry base, followed by Process industries, Steel and Oil & Gas segment (API – Drive Turbines).

A marginal slowdown was noticed in the domestic market and also in the international market (Middle East North Africa - MENA and Central & South America). The TTL team managed to overcome this and increased the enquiry generation, which is quite a positive development in the current scenario. The API enquiry base is spread across geographies, and comes from all the Original Equipment vendors, National Oil Companies (NOCs), EPCs/PMCs.

The success of the aftermarket business is evident in its order bookings and sales growth, which saw increases of 88% and 82%, respectively, in FY 23.



### AFTERMARKET BUSINESS REVIEW

In FY 23, the aftermarket business unit experienced strong growth, thanks to a significant influx of new orders. This has further strengthened the unit's already diversified portfolio of revenue streams dedicated to servicing and optimising turbine performance globally.

Our mission is to ensure that turbines operate at maximum capacity. We are committed to providing full-service support throughout a turbine's lifespan, from its initial commissioning to ensuring successful performance over its lifetime.

To reinforce its customer-centric philosophy, the Company has strategically located service offices throughout India, along with international offices in Europe, West Asia, Southeast Asia, and Africa. By providing prompt service support in different time zones, the Company is earning the trust of customers in overseas locations.

We collaborate with various other stakeholders to advance our offerings to the market. Our goal is to be the preferred lifetime service solutions provider for customers, supported by our culture of innovation, operational excellence, safety and quality.

As a multi-brand service provider, we leverage our accumulated knowledge to service turbines, regardless of their make. Our primary objective is to provide timely service and spare parts support, to ensure that customers achieve the designed performance of their turbines, ultimately leading

to increased customer satisfaction. We achieve this through the deployment of innovative business models and hybrid asset integration and optimisation.

The success of the aftermarket business is evident in its order bookings and sales growth, which saw increases of 88% and 82%, respectively, in FY 23. With aftermarket contributing to 29% of order booking for the year (up from 21% in FY 22), the Company is confident that this segment will continue to provide a significant share of the overall growth in the coming years.

### MANUFACTURING

Two state-of-the-art manufacturing facilities in Bengaluru, located at Peenya and Sompura (India), and one facility at Pretoria (South Africa) provide timely delivery of products and services to the customers. Each of the above facilities has full green cover, creating an oasis in the respective industrial areas. Our CapEx investments are aligned to further boost our capacity, to 250-300 turbines per annum, in FY 24.

TTL has carefully created its manufacturing capabilities in terms of infrastructure, human resources and processes to meet the current and future needs of the market and to serve the customers.

The manufacturing units are equipped with all the facilities required to produce and test steam turbines up to 100 MW. These include best-in-class high precision CNC machines from across the globe to produce critical parts such as


casings, rotors, blades, nozzles and blade roots. TTL is one of the few steam turbine manufacturers globally to have such full-scale in-house facilities. Seamless component quality is assured through CAD-CAM-CNC machining – CMM process equipment with minimal manual intervention. Further, the CNC machines are IoT Industry 4.0 enabled, providing real-time production status. These high-end machines enable readiness of critical components from raw materials in the quickest possible time. The component manufacturing, as above, is coupled with adequate number of fully equipped steam turbine assembly-cum-test stations. Assembly facilities include blade mass and moment balancing machine, low speed balancing machine, high speed balancing machine, rotor run out test equipment, laser alignment equipment, SCADA etc. TTL balancing facilities are capable of providing high quality balanced rotors for any rotating equipment, from 60 Kg to 55,000 Kg mass, up to 32,000 RPM. Testing facilities include 100% standby diesel power plant, water treatment plants, boilers, condensers, and cooling towers as needed. TTL's facilities enable production and testing of the turbines as per the stringent API standards - API 611 and API 612.

Manufacturing processes are designed, implemented, continuously improved and certified to management systems such as Quality Management System – AS 9100D, ISO 9001:2015; Environmental Management System – ISO 14001: 2015; and Occupational Health & Safety Management System: ISO 45001:2018; The Indian Green Building Council (IGBC) green factory guidelines (Peenya facility has achieved Platinum rating as per IGBC). Manufacturing facilities are zero liquid discharge plants, which fully utilise the water and do not discharge any waste water outside the premises. TTL is harnessing solar power and has installed an additional 1,000 kW solar panels in its factory rooftops in its quest for green power and care to environment. Following this, a total of 1,300 kW of solar panels are in use, replacing the daytime use of electric power based on thermal power plants provided by BESCOM.

Manufacturing is supported by able and efficient supply chain partners, such as suppliers, sub-contractors and logistics partners. Competent supply chain partners are identified, developed and nurtured to provide seamless supply of parts and services. Performance of supply chain partners are continuously monitored and improved through periodical meets, audits, technical and other supports. Over a period, this has enabled TTL to build a trusted, capable and confident supply chain base to meet the quantum increase in the production levels.

Operations are integrated through SAP ERP, Primavera; while 5S, Daily Work Management, Lean Principles, Quality Circles, Small Group Activities, Root Cause Analysis, CFTs,

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OEE, Kaizen are the various tools and techniques adopted to improve the processes, and to involve and empower the operating personnel. People's capabilities are improved through training and mentoring, including enabling of continuous learning through digital platforms.

Having undergone a significant capacity expansion last year with the addition of another bay (C-bay) at the Sompura facility, TTL is now prepared to deliver between 250-300 turbines annually, provide outstanding aftermarket service (spares, services, and refurbishing), and make prompt deliveries in accordance with customer demand in the years to come. In FY 23, the Company commissioned additional assembly and testing facilities along with heavy material handling facilities at its Sompura plant.

### **TECHNOLOGY, RESEARCH & DEVELOPMENT**

Energy markets, globally, are demanding higher efficiencies & sustainable power generation. Over decades, Triveni Turbines has developed expertise in custom engineering turbine solutions, through in-house research & development (R&D). The innovations, in terms of advanced impulse & reaction blading and high efficiency low pressure stages allow Triveni to set energy conversion benchmarks. The product portfolio, which covers Power, Biomass, Waste-to-Energy (WtE) & Waste Heat Recovery (WHR - Chemicals, Paper, Cement, Pharma, Distillery and Hydrocarbon) applications, allows turbine offerings to diverse needs of the industry.

In FY 23, the focus of the R&D programme has been the following:

- Development of high-speed power density turbine models
- High efficiency turbine models, for higher MW range
- Expansion in the API turbine market
- Energy transition & sustainability products

### High Speed Turbine Series

During the year, Triveni has developed turbines for high speed applications, which result in high power density models. These models are compact, more efficient & allow expansion into cold country markets, with high vacuum.

### Turbine Series for High Efficiency

For the higher MW range, advanced LP module, enhanced efficiency HP blading & better LP flow control techniques permit Triveni to offer benchmark heat rates through its turbines.

Functionality, safety and reliability of the turbines are validated at Triveni's high-tech testing facilities – which include provision for high speed balancing (HSB), mechanical run test (MRT), Blade-Tip Vibration Measurement (BVM), Wheel Box Test for LP blades validation and in-house load test facility.

### High Speed Axial Exhaust Turbine

Triveni continues to execute highly customised engineered turbine projects, which include axial exhaust turbines that help customers reduce the power plant footprint & civil cost by as much as 30%. These axial exhaust turbines, intended for export market, run at higher speeds as compared to past offering for axial exhaust arrangement.

### Pillar Mounted Turbine-Baseplate Package

Customers face challenges in modernising the ageing power generation equipment. Existing powerhouse layouts require customers to demand the turbine vendors to meet stringent footprint requirements. Triveni has also developed novel mounting arrangement for the turbine-alternator package on the pillars of the plant instead of conventional support on a foundation deck. The turbine-alternator package, which is an export order to Europe, reduces the cost of civil work substantially.

### API Turbine Series

API portfolio of Triveni caters to multitude of drive applications & offers solutions to specific customer needs from footprint & operational perspective. Customisation of API turbines include, but not limited to, governors, lubrication, bearings & supervisory instruments. Standardisation, modularity, introduction of new frames & enhancement of existing frame capabilities were also main pursuits of API product program.

### Energy transition & sustainability products

Triveni Turbines is championing the energy transition efforts through development of subcritical and supercritical CO<sub>2</sub> based power blocks. These technologies offer themselves as higher efficiency & compact replacements to steam-Rankine cycle.

World market for heat pumps is growing rapidly. Due to its favourable thermophysical properties, CO<sub>2</sub> is regarded as an alternative in residential and commercial heat pumps. Triveni is associating with leading academic institutions to develop next generation transcritical CO<sub>2</sub> Heat Pumps.

### Innovative solutions for the Aftermarket business

Triveni's aftermarket business has built an excellent record in analysing issues in customers' equipment & providing solutions that permit uninterrupted operation. Triveni's multi-brand refurbishing service called Triveni REFURB has redesigned, manufactured & supplied several power generation turbines to replace OEM equipment.

- Amongst very difficult engineering projects, some of the highlights are: Triveni REFURB has replaced internal components of above 300 MW direct drive turbine operating in a combined cycle application.
- A Geothermal rotor supplied with enhanced metallurgy and improved design, by Triveni REFURB, has continued to perform under demanding operating conditions, without experiencing wear outs.

Triveni has also provided re-lifting solutions for other turbomachinery equipment such as compressors, gas expanders, turbopumps and gas turbines.

### Continuously upgrading analysis capabilities

Triveni is constantly looking to enhance the analysis capabilities for validation of a wide array of products developed at our research centre.

### Associations & Awards

Triveni collaborates with domain experts in steam turbines. Association with renowned universities & design-houses, in India, Europe & USA, make Triveni uniquely positioned to bring products to market faster than competition.

During the year, the Company was awarded a Special Appreciation Award for its overall IP ecosystem in the 8<sup>th</sup> CII Industrial IP Awards, 2022.

### Footnotes:

+Global Warming Potential (GWP) is an index of total energy added to the climate system, by use of a refrigerant, relative to that added by CO<sub>2</sub> utilisation. Radiative Forcing is the concept behind definition of Global Warming Potential. Radiative Forcing is the net change in the energy balance of Earth system due to adoption or release of a refrigerant into atmosphere. As a result of the release of a refrigerant, the balance of Earth's absorbed radiative energy & re-radiated energy is disturbed, in effect, resulting in global mean surface temperature to rise. This Radiative Forcing is measured in W/m<sup>2</sup> & influences the energy balance of radiated/re-radiated energy, for thousands of years, in case of some refrigerants. The ratio of net energy imbalance, relative to CO<sub>2</sub> release, over a defined period of time (typically 100 years) is the GWP100.



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R-32 & R-134A are the most common refrigerants (HFCs) used for Air Conditioners & Refrigerators, respectively. GWP100 of R-32 & R-134A are 677 & 1300 respectively.

### INTELLECTUAL PROPERTY RIGHTS

Invaluable in-house Intellectual Property (IP) is generated through the research efforts undertaken by the Company. It is, therefore, a practical necessity to adequately protect these innovations & technological improvements for safeguarding the Company's innovative edge in the industry. A dedicated team of IP specialists works closely with the R&D team, from the initial planning and conceptualisation stage to the manufacturing stage, in order to capture and protect the generated IP.

For the protection of its long-term IP assets and building a robust IP portfolio, the Company has instituted a well-rounded IP strategy with the aim of securing and preserving its technological advantage in the industry. With its global focus and reach, the Company constantly undertakes patent and industrial design filings in various international jurisdictions, while enhancing its IP portfolio in India. The Company has filed for IP protection via patents and industrial design registrations in India, Europe, South East Asia, and in the United States of America, and plans to protect its IP in the new international markets where it serves. A substantial number of Intellectual Property Rights (IPRs) have already been awarded to the Company in India and other jurisdictions. The Company had filed 338 IPR in the market globally till March 31, 2023. These include IPR filings in steam turbines and CO<sub>2</sub> based power systems. During the year, the Company was awarded a Special Appreciation Award for its overall IP ecosystem in the CII Industrial IP Awards.

### IT AND DIGITALISATION

The Company has embarked on a journey towards digital transformation over the past few years. During the past couple of years, all of its processes have been digitised, and the Company continued its journey of **digitalisation** of key processes during FY 23.

The focus of our digitalisation efforts was sharpened around three aspects:

1. Strengthening and integration of **digital core**.
2. **Value generation** for customers and the Company's frontline personnel to deliver value.
3. Improving **value delivery** by supporting stakeholders to deliver value in the most process compliant and efficient manner.

The Company's **digital core** consists of various industry-standard hardware infrastructure and software platforms that support customer relationship management (Salesforce), product lifecycle management (Teamcenter), business processes (SAP, Primavera) and operations technology (Vericut, TopSolid, MasterCAM, D-MRT). Many of these platforms are already operating on Cloud. Interfacing across these platforms to seamlessly integrate their data is already happening with APIs. The Company will focus on transitioning to the latest technology for these platforms, either on-premise or on-Cloud. And, the focus will be on fully integrating all platforms to create unified product data management.

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personnel to fulfil customer expectations. The Company is also integrating its huge body of knowledge about installed product base and processes into an integrated, IT-enabled knowledge management system. This will help our frontline personnel respond to customers faster on their queries and complaints, and deliver even better value on service.

With sizeable manufacturing footprint catering to global business, efficiency of **value delivery** system plays big role in the Company's success as a cost-leader in supplies and differentiator in service. Ensuring industry-standard hardware and software platforms is the starting point to give the Company's value delivery system an edge. This has continued with implementation of human capital management system (HCMS) that digitalised the Company's hire-to-retire process.

Multi-level security measures, to counter the ever increasing risk of **data security and cyber security**, are critically reviewed for their adequacy and effectiveness. Attempts to breach personal data and extract monetary benefits through social engineering by malicious actors have been thwarted during the year. The Company was successful in preventing any security breach during the year. But we realise that, especially in the matter of cyber security, past success is no guarantee for secure future. So we continue to be vigilant, upskill ourselves, and deploy the latest security measures.

### SUPPLY CHAIN MANAGEMENT

One of Triveni Turbines' competitive advantages remains its solid supplier base. To meet the increase in demand, TTL adopted a three-pronged strategy in consolidating the supplier base in FY 23: a) continuously enhance existing supplier capabilities, b) enhance capacities of existing suppliers, c) develop additional suppliers. Following due diligence, a significant number of suppliers and subcontractors were brought on board during FY 23 to increase capacities.

By including suppliers in the early stages of the development of new technology and products, and by utilising world-class supply chain management processes using the appropriate tools and systems across functions, the Company continues to be relentlessly focussed on improving the growth of its global supply chain. The business also keeps spending money on hiring, educating, and growing leaders to build one of the best supply chains in the market.

In order to maintain the necessary stock of raw materials and other commodities at appropriate levels and enable a smooth flow of production, the Company places the right attention and stress on inventory control. In addition, an ideal inventory buffer is built based on forecast in order to shorten the delivery cycle times, advance planning, and focus on enabling the Company to deal with supply chain disruptions brought on by COVID-19 and other global geopolitical upheavals. An ongoing focus is placed on periodical supplier meets, supplier education, training of supplier personnel, investment in suppliers' operations and equipment, long-term contracts, building trust and support as needed, recognition to suppliers based on performance, etc. As a result, customers are receiving timely support for products and services, smoothly and continuously.

The Company conducts periodic vendor-wise spend analyses, and has put in place suitable control mechanisms (internal and also with suppliers) to guarantee compliance with regulations, on-time delivery, standardisation, desired level of quality, favourable reviews, and dependable business relationships.

The Company aspires to consistently enhance the customer experience in terms of quality, delivery and cost, with an emphasis on ensuring that its supply chain partners grow in a participatory and mutually beneficial manner. The pursuit of quality and supplier involvement continues with the aim to provide higher levels of customer satisfaction.

### QUALITY ASSURANCE

Implementation of a quality management system that complies with AS 9100 D and ISO 9001:2015 criteria leads to continuous quality improvement across the value chain. Overall quality assurance is built on the foundation of production specific standards for steam turbines API 611 and API 612. For each of the customer projects, quality assurance plans are drawn, taking into account the mandatory requirements, customer & consultant-specific requirements, and country-specific requirements.

Continuous improvements are achieved in the customer satisfaction index and complaint resolution time through proactive customer feedback. Employees are sensitised,

motivated and empowered to take appropriate actions to ensure improvement in customer satisfaction levels. TTL continues to assess the Net Promoter Score (NPS®) and is able to achieve improvements year-on-year. Areas for improvements are identified through customer feedback, and appropriate actions are taken.

In TTL, quality control permeates every step of the value chain. Starting with the quality of the proposal, order, project, engineering, supplier, process and product, it ends with the quality of the service. The level of staff competency is continually raised to fulfil the needs of clients from various market segments. Employees are encouraged and supported in their enrolment in specialised programmes offered by API, NACE, and other organisations.

Supplier quality plays an integral role in TTL's quality programme. Through the use of concurrent engineering, suppliers are involved from the beginning of the design process. Suppliers are accepted after passing through a set of quality gates. This facilitates the quickest and best product realisation. The quality of the finished product is guaranteed via design FMEA, validation using specialised software, and component-level QC. Quality assurance is deployed through SAP and primavera processes.

Converting the design intent into product reality is achieved by stringent in-house quality control. Quality control is exercised at three stages: raw material, in process, and final assembly & testing. TTL has necessary quality control equipment, such as Spectrometer, PMI, UT, MPI, LPT, a wide range of measuring instruments, laser alignment equipment, state-of-the-art CMM, and a wide range of conventional and digital measuring instruments in its array.

A number of QC professionals in the fields of metallurgy, NDT, welding, RLA, and failure analysis have been appointed by TTL. Leading research organisations support TTL in its quest to improve the quality of its product offerings.

Root cause and corrective action (RCA) and Kaizen have become a culture in the organisation, helping eradicate issues faced at the operational level and also at the customer end. This culture continues to yield better results in first pass yield (FPY) of the turbine's Factory Acceptance Testing (FAT) and also helps in keeping the CoPQ (cost of poor quality) value under control.

Digitised supplier evaluation process continues to ensure balance between risks and opportunities, and helps in meeting the demand of on-time delivery of products with increase in number of turbines manufactured. Remote FAT inspection

options to customers and supplier inspections ensure quick turnaround time (TAT) of quality control processes. TTL is also poised for improved data-based decision-making for delivering better quality through its digitisation programme.

World Quality Day celebrations were conducted in November 2022 by involving the employees throughout the organisation. In accordance with the theme for year "Quality conscience: Doing the right thing", various events were conducted. Employees presented the Kaizens implemented by them to showcase how small improvements can result in great success. This set the stage for 'doing the right thing, at the right time'. TTL won the Silver memento in the 3M competition organised by CII-TPM Club of India. TTL employees won prizes at the Quality Week competitions held by Quality Council of India.

Quality First continues to be the focus of the Company to serve its customers, both domestic and overseas, by providing reliable and competitive products / services.

## HUMAN RESOURCES

### Our Philosophy

Triveni Turbines believes in the power of people. The Company is conscious of the fact that a happy workplace results in engaged and energised partners. Riding on the energy levels of our people, we continue our efforts to scale greater heights, in business, technology, and processes.

Operating in dynamic global business scenarios over these years, the team at Triveni has developed an agile approach, resilience, and creativity to counter the increasing complexity, chaos and convergence in everything we come across. Our team stays focussed, confident and ready to rise to the occasion to own responsibility. We are committed to growth in the face of constant change.

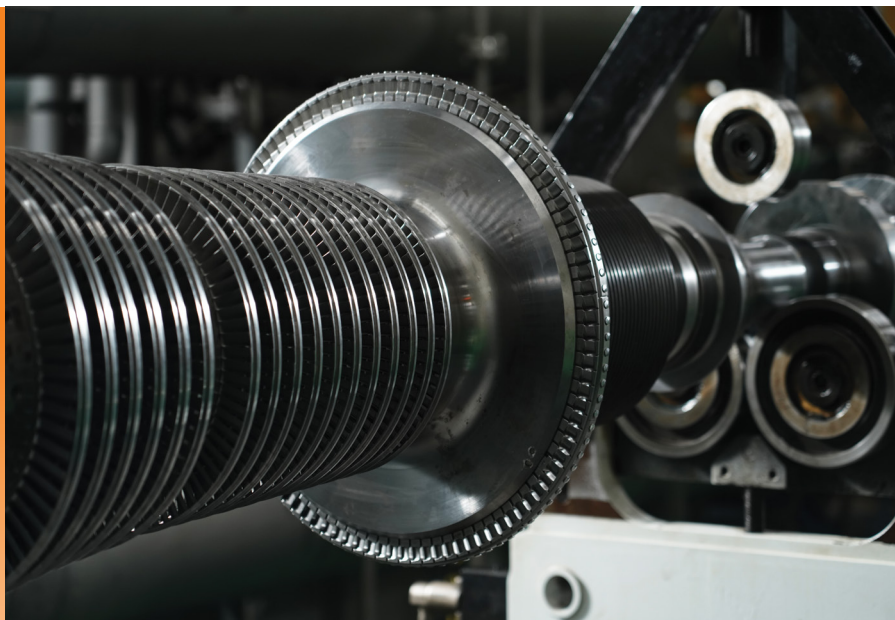
### People strategy well aligned with business strategy

Triveni Turbines' people strategy is fully aligned to our business strategy, and it is aimed at enriching, enhancing, and building competencies in people to deliver consistently in a sustained manner. Our high-performance culture ensures that ambition is rewarded. Our commitment towards winning together ensures that loyalty and hard work is recognised. The right blend of creativity and convention helps us build a future-aligned organisation while retaining our core values.

In today's volatile market, the aptitude and ability to learn quickly, and promptly adapting to new situations is essential. Our people development policies are aimed at increasing the appetite for learning in our employees. High learnability



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allows individuals to acquire new skills and knowledge continuously, leading to consistent delivery and increased career opportunities within the Company, and ensuring faster personal growth. We also acknowledge the role of self-paced learning in the flow of life. Triveni Turbines believes in following a blended approach for learning, and has created avenues for employees to learn using different media and platforms, including online learning tools, besides conventional classroom sessions.

### Engagement with employees and customers

Connect, communication and engagement with employees is a continuous practice embraced by us to enrich employee experience. Engagement initiatives like "Triveni Talk", "Trivenometry", "World Quality Day", and celebrating festivals and occasions, adds richness to the bonding of the teams while giving them opportunities to explore their creative sides.

We firmly believe in customer centricity, and thus keep customers at the centre of everything we do. This approach helps us to always be closer to the requirements of the customers. Partnering in regular customer engagement initiatives, like Net Promoter Score (NPS), continuous customer feedback on execution experience, Perceived Quality and User Experience (PQ & UX) testing, creativity workshops etc., is an important contributor to enriching customer experience.

### Forward-looking approach

Triveni Turbines' performance management and succession planning is Forward-looking. It rewards both potential and

performance, building a robust leadership pipeline in the process. Competency development and job rotation help in engagement and enrichment of employees, striking a balance between their career aspirations and organisational growth.

### Effective policies and processes

Our HR policies are completely aligned with the organisation's goals and values. These policies cover various aspects of the employee life cycle, and enable a smooth employee experience. Our policies are regularly reviewed and updated to stay compliant, and in sync with the changing business needs. Effective HR policies and processes help us in growing, attracting and retaining top talents, promoting a positive work environment, and ensuring fair and consistent treatment of all employees. Our people-centric ecosystem results in psychological safety and emotional well-being, enabling our people to give their best. Our pro people outlook helps us to maintain a competitive edge by aligning best-in-class practices with the organisation's strategic objectives.

### Learning & development

Our Learning Centre is a dedicated, world-class, in-house training facility to make learning fun and focussed. We believe in being proactive to keep pace with the ever-changing business needs. We continuously revisit our offerings, including approach & content, to stay relevant and be business-ready. Development, engagement, and successful talent development through constant re-skilling and upskilling of employees, as well as building the leadership bench and creating a talent pipeline for the future, are critical to the growth ambitions of the Company. Building a resilient and

future-ready team requires strategic orientation, long-term perspective, commitment to talent management, focus on developing high-potential employees, and a culture that values learning and growth. Developing internal competency, capability and capacity is our priority.

We are developing a futuristic mindset and an agile talent pool required to succeed in the long term. Our re-fuelled HR team, comprising domain specialists, provide the necessary direction and expertise to build capability and capacity to be future-ready to successfully meet the dynamic business scenarios. The Company continues to believe in building partnerships and drawing synergies with technological and management institutes to create talent availability for the future, and stay competent to augment future technologies for creating customer value.

### **FY 23 highlights – Focussed on talent acquisition and competency development**

Headcount ramp-up was a major activity in FY 23 to support the business needs, based on the detailed strategic workforce planning carried out during the year. There was a net addition of 20% headcount (Permanent Employees: 722 in FY 23 compared to 603 in FY 22). This included roles across the business value chain, ranging from Technology, Sales, Service, Execution, HR, SCM and Finance. Besides this, connecting with premium institutes helped the organisation in selecting and engaging interns to build the future bench for technical talent, especially in the areas of Thermal, CFD, etc. The outlook for FY 24 is in a similar direction, keeping the business growth plans in perspective.

Competency development has been a key focus area to upskill and reskill our workforce for becoming future-ready. In FY 23, there has been a 20% increase in average man days of training per person for lateral hires despite the sizeable increase in headcount. Connecting with domain specialists like PMI (Project Management), RIMS (for Risk Management), etc. helped strengthen our readiness for certification in functional competencies, while Leadership for R&D Managers, etc. helped in building managerial competencies.

Besides this, our Learning Centre re-designed the training and competency building for the fresh engineers from college. The curriculum, spread over eight months, included core technical training (mechanical, electrical, etc.), practical training on our shop floor, machining vendors, as well as project sites. It was designed to strengthen the core capability in the fresh engineers. This is complemented by the coverage of behavioural topics like presentation skills, communication skills, working in teams, problem solving, etc. Additionally, our CBT centre has been instrumental in helping the new hires in simulated training on turbines.

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### **ENVIRONMENT, HEALTH AND SAFETY (EHS)**

TTL has implemented Environmental Management System and Occupational Health and Safety Systems complying with the requirements of ISO 14001:2015 and ISO 45001:2018 respectively. The management system is certified by Indian Register Quality Systems, accredited by RvA Netherlands.

Peenya factory is certified under The Indian Green Building Council's (IGBC) Green Factory building as a Platinum rated facility. The Company has initiated a system for monitoring its GHG (Greenhouse Gas) emissions during FY 23 as a part of its continual improvement programme.

Continual improvement in Environment, Health and Safety (EHS) parameters are achieved through operational controls and management programmes. TTL has an enviable track record of having zero man-hours lost due to accidents for the past several years. Robust engineering controls are in place in the factory premises, including a system for capturing of incidents to pre-empt the actions required for eliminating the accidents.

Cross-functional teams of employees focus on conservation of energy, water and natural resources and waste elimination through active participation in developing, implementing and improving the processes. All the shop floor personnel undergo annual health check-ups mandatorily.

TTL's manufacturing facilities are eco-friendly. Both the manufacturing facilities at Bengaluru are zero discharge facilities. Entire water is recycled and utilised for internal use, and no waste water is discharged beyond the premises. Oil used in the testing and other processes is recycled multiple times before finally being handed over to PCB approved recyclers for another lease of life. The entire premises are well lit with ample daylight and natural ventilation, thereby avoiding use of electric lights and air conditioners by design. Air conditioners are used only in conference rooms and CAD

/ CAM offices. Ample green cover with native trees forms a rainforest-like ambience, ensuring that the temperature in the campus is less than the surroundings. Rainwater harnessing is carried out through harnessing ponds and soak pits. The manufacturing facilities have plenty of green cover with native and exotic trees and plants, natural landscaping, rainwater harvesting facilities, and solar panels for harnessing renewable energy.


TTL has invested in an additional 1,000 kW solar power plant during FY 23 on its factory roof. With this, the maximum permissible solar capacity under BESCO rules for roof mounted has been reached. Following this, a total of 1,300 kW of solar panels will be in use, replacing the daytime use of electric power based on thermal power plants provided by BESCO. These facilities are scheduled to be commissioned in April 2023, with net metering facility to export surplus energy during holidays.

The entire campus is covered with electronic surveillance through CCTV and IT-enabled security systems.

## BUSINESS OUTLOOK

For Triveni Turbines, the strong business performance for FY 23 is expected to continue during FY 24. This is on account of its strong carry-forward order book and continued development of new market segments of API turbines for Oil & Gas industry, as well as turbines in the higher power range. Prospects for the aftermarket segment are bright as well, with an increasing portfolio of offerings, viz. services, refurbishment and spares, across a wider customer base of steam turbines, utility turbines, geothermal rotors. Strong domestic supply chain guarantees competitive advantage and business continuity, even when global supply chains and economies are going through a rough patch. In order to

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continue generating value for customers, managing inflation-induced impact will be one of the key areas of focus for the Company.

The outlook for India's economy is bright, albeit moderate compared to its own past performance. Thus, relatively stronger domestic conditions – higher growth, better conditions for business, credit availability, etc., will create more domestic business opportunities for the Company.

While slowdown in advanced economies, higher interest rates, and increased complexities of trade restrictions pose a challenge to maximise opportunities in international business, the increasing demands for renewable energy, waste to energy (Wte) and decentralised power solutions continue to present significant opportunities for companies like ours, to provide innovative solutions in these areas.

We believe these opportunities, both in domestic and international markets, will help Triveni Turbines sustain growth and margins in the coming years.

## CORPORATE SOCIAL RESPONSIBILITY (CSR)

### CSR Objectives and Vision

The Company wishes to be perceived as a 'Company with Conscience', and to actively and continually contribute to the social and economic development of the communities for the benefit of the deprived, underprivileged and differently abled persons. The Company continues to pursue its endeavour to improve the lives of people, and provide opportunities for their holistic development through its initiatives in the areas of Healthcare, Education & Training, and Technological Development.

At Triveni Turbines, we have always believed in doing well by doing good. It is our firm belief that the long-term success of a corporate depends on giving back to the society it operates in, and ensuring its operations are sustainable. All CSR projects/programmes undertaken for the period were conceived and implemented through a focussed approach towards the target beneficiaries for generating the maximum impact. They were undertaken in partnership with credible implementing agencies.

As an integral part of our commitment to good corporate citizenship, we strive to be a socially responsible company and strongly believe in development which is beneficial for the society at large. As a corporate citizen receiving various benefits out of the society, it is our co-extensive responsibility to pay back to the society in terms of keeping the environment clean and safe, by adhering to the best industrial practices and adopting the best technologies, and so on. It is the Company's intent to make a positive contribution to the