

2023年度

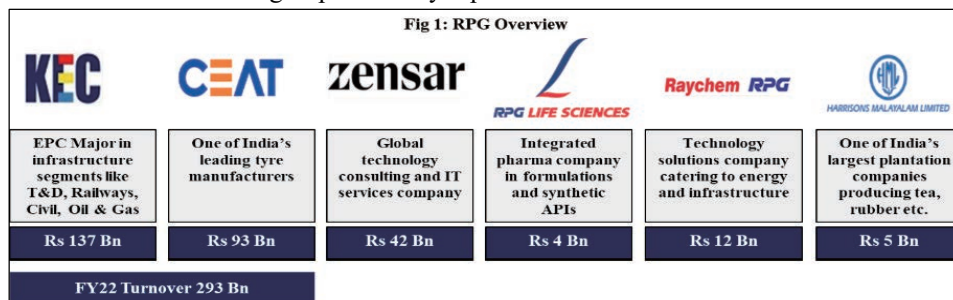
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受賞報告講演要旨

CEAT Limited

## Chapter 1 Company Profile

### 1.1 RPG Enterprises

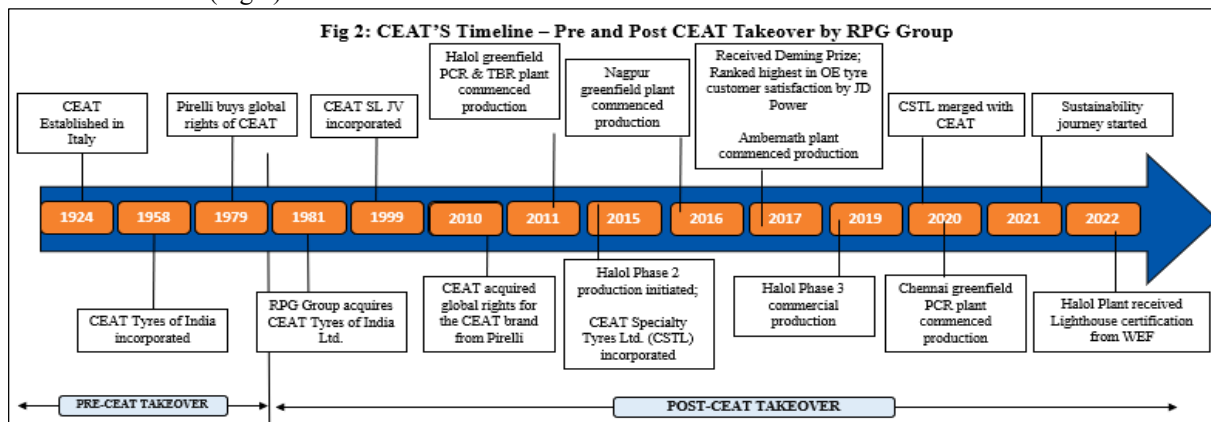
RPG Enterprises was founded in 1979. The group currently operates various businesses in Infrastructure, Technology, Life Sciences, Plantations, and Tyre industries. The group’s business history dates back to 1820 AD in banking, textiles, jute, and tea. The Group grew in size and strength with several acquisitions in the 1980s and 1990s. The Group is now one of India’s fastest-growing conglomerates, with 30,000+ employees and a global presence. Acquired by the Group in 1981, CEAT is one of India’s leading tyre manufacturers and the flagship company of RPG Enterprises (Fig 1).



Driven by its purpose of “Making Mobility Safer and Smarter. Every day.”, CEAT has risen to become one of the major tyre producers in India. CEAT ranks 4<sup>th</sup> in the Indian Tyre Industry, with a turnover of over Rs. 93.1 Bn, a net worth of Rs. 31.5 Bn in FY22, and a market capitalisation of Rs. 58 Bn as on March 29, 2023. An established brand, it manufactures a wide range of radial and bias tyres for commercial, passenger vehicles, and specialty segments. CEAT’s primary strengths have always been a strong brand, great product quality, and exceptional customer experience through strong value chain ties. Through its purpose, CEAT has embarked on a journey of giving safety its rightful place, first in India and then in all the global tyre markets that CEAT would reach out to. CEAT’s products, services, and communications would work towards enhancing safety on roads by bringing to the table digitalisation, innovation, and the latest technological trends. Key milestones in the CEAT journey are depicted in the timeline below (Fig 2).

### 1.2 CEAT Limited

Driven by its purpose of “Making Mobility Safer and Smarter. Every day.”, CEAT has risen to become one of the major tyre producers in India. CEAT ranks 4<sup>th</sup> in the Indian Tyre Industry, with a turnover of over Rs. 93.1 Bn, a net worth of Rs. 31.5 Bn in FY22, and a market capitalisation of Rs. 58 Bn as on March 29, 2023. An established brand, it manufactures a wide range of radial and bias tyres for commercial, passenger vehicles, and specialty segments. CEAT’s primary strengths have always been a strong brand, great product quality, and exceptional customer experience through strong value chain ties. Through its purpose, CEAT has embarked on a journey of giving safety its rightful place, first in India and then in all the global tyre markets that CEAT would reach out to. CEAT’s products, services, and communications would work towards enhancing safety on roads by bringing to the table digitalisation, innovation, and the latest technological trends. Key milestones in the CEAT journey are depicted in the timeline below (Fig 2).

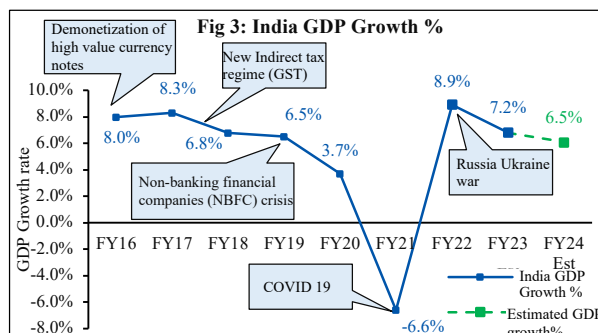


CEAT is an autonomous company within the RPG group with its board of directors and Managing Director, independent customers, and markets. The company makes its financial decisions and controls its people practices, business functions, and quality management systems. It is a listed company on the national stock exchanges of India. The promoters, including the RPG Group, own 47.2% of CEAT as on Dec 22. Foreign Institutional Investors and Domestic Institutions, including Mutual Funds, own about 36.8%, and the public holds the balance. The company has two key subsidiaries, namely, CEAT Sri Lanka and CEAT Bangladesh, which are not in the scope of the Deming Application. These contribute to less than 10% to the overall CEAT turnover.

### 1.3 Tyre Industry

#### 1.3.1 Indian Economic Scenario

The external environment has been challenging over the past five years. Indian GDP growth witnessed a declining trend with a slowdown in the manufacturing and construction sectors and muted consumer demand growth (Fig 3). The government of India announced the demonetization of high-value currency notes in FY17. A new indirect tax regime, GST (Goods and Service Tax), was implemented in FY18. The new tax regime, coupled with currency demonetisation, severely impacted the



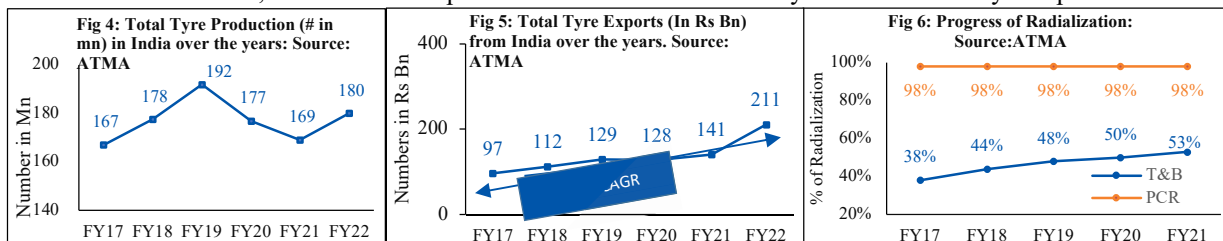


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automobile industry. A crisis in the financial sector impacted demand (Non-Banking Financial Company crisis), higher fuel prices, poor sentiments, and high-interest rates. GDP growth was further impacted in FY21 and FY22 due to multiple nationwide lockdowns imposed to curb the spread of COVID-19. The business was impacted in FY23 due to sustained inflation on account of the Ukraine war. While the threat of a resurgence of COVID-19 persists, the outlook for GDP growth in FY24 may see further downward pressure due to tightening global financial conditions and slowing external demand. However, India is still seen as a bright spot and a major engine of growth amid an expected fall in global growth to 2.9% in 2023 from an estimated 3.4% in 2022. This means India retains its position as the world's fastest-growing economy. India's economy is expected to grow in FY24 as the government has increased the capital outlay along with a pick-up in private capex. This will lead to more job creation and a virtuous cycle of higher incomes and consumption.

### 1.3.2 Indian Tyre Industry

Indian Tyre Industry is Rs 750 Bn in size. It comprises 41 companies with 169 million tyre production in FY21 (Fig 4). Multiple disruptions have impacted tyre production in India over the last few years. The six-month period ending September 2022 (6MFY23) saw a recovery, with a 8% increase in production vs the same period the previous year. Total tyre production in India has reduced year on year for two consecutive years in FY20 and FY21. Motorcycle tyres comprise around 40% of the number of tyres manufactured, followed by passenger car, scooter, and truck & buses. In terms of value, truck & bus comprises around 54% of the industry's total revenue. Tyre exports from India



have sharply grown in FY22, registering 50% growth vs the previous year, with Indian manufacturers taking advantage of geopolitical situations (China + 1 policy) and establishing brand equity of Indian tyres in international markets (Fig 5). On the other hand, tyre imports in India, which were on a downward trend from FY18 to FY21, have seen an uptick of 44% in FY22 year on year.

Radialization in the truck & bus segment has been growing at a fast clip in the last few years. With the improvement in road infrastructure and the launch of multi-axle vehicles, the radialization in trucks and buses has gained momentum, reaching 53% in 2021 (Source: Automotive Tyre Manufacturers' Association). The passenger cars segment almost exclusively comprises radial tyres (Fig 6). Radialization in 2-wheelers is still at a nascent stage. In the farm and OHT categories, bias tyres are dominant in the Indian domestic market. However, the exports are predominantly radial tyres.

### 1.4 Markets & Distribution Network

CEAT operates in domestic market and in international business. The domestic market is further segregated into OEM and Replacement segments. International Business comprises of international exports for the global replacement market (Fig 7).

Fig 7: CEAT's Markets & Distribution Network

| Domestic   |   | International Business  |
|--|---|---|
| Replacement  | OEM   |   |
| <ul style="list-style-type: none"> <li>Replacement footprint is spread over 620+ districts out of the total 751 in the country, through a pan-India network of dealers, distributors and franchisees</li> <li>Have 2700+ dealers and 340+ distributors servicing over 55,000+ Sub dealers.</li> <li>400+ Exclusive CEAT Shoppes and 81 CEAT Tyre service hubs.</li> </ul> <p>Constitutes 56% of CEAT net sales in FY22</p> | <ul style="list-style-type: none"> <li>Regular supplier of tyres to most major OEMs in India</li> <li>Currently serving 25 Mainstream and 70 Start-up OEM customers</li> <li>Key among them are: Maruti Suzuki, Hyundai, Hero MotoCorp, Honda, Royal Enfield, Tata Motors, Ashok Leyland, Volvo Eicher, and Mahindra &amp; Mahindra</li> </ul> <p>Constitutes 24% of CEAT net sales in FY22</p> | <ul style="list-style-type: none"> <li>One of the leading exporter amongst the Indian tyre companies with sales to 110+ countries worldwide</li> <li>Divided our exports market in seven clusters which helps us understand customer requirements better and accordingly develop market specific products</li> <li>Strategic entry into the EU market and Off-highway tyres (OHT) category; partnerships with premium OEMs like AGCO, John Deere, CNH, JCB, and Bourgault</li> </ul> <p>Constitutes 20% of CEAT net sales in FY22</p> |

### 1.5 Product Portfolio

CEAT offers the full range of tyres catering to all user segments selling 41 million+ tyres annually. Our products are categorised as follows (Table 1 & Table 2)

Table 2: Product Wise Replacement Market Share

| Tyre Category | Rank -2017 | Rank -YTD Dec 2022 |
|---------------|------------|--------------------|
| PCUV          | 4          | 3                  |
| 2 Wheeler     | 2          | 1                  |
| TBR           | 7          | 4                  |

Table 1: CEAT Product Mix 9M FY23

| Category        | 9M FY23 Net Sales Rs Bn | % of Net Sales FY 22 |
|-----------------|-------------------------|----------------------|
| Truck and Buses | 23.5                    | 29.0%                |
| 2/3 Wheelers    | 22.2                    | 27.4%                |
| PCUV            | 15.7                    | 19.4%                |
| Specialty       | 12.9                    | 15.9%                |
| Others          | 6.8                     | 8.3%                 |
| <b>Total</b>    | <b>81.1</b>             |                      |



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### 1.6 QBM Advancement

In 2008, CEAT decided to pursue TQM to raise the organization’s ability and strengthen it against the strong competition that India was experiencing, not only from Indian companies but also from international companies such as Bridgestone and Michelin, who were setting up manufacturing plants in India. TQM is practised under the name of Quality Based Management (QBM). QBM has been instrumental in strengthening the customer focus, long-term thinking, process orientation, and people focus, providing breakthrough products and services to customers. We continue to work on our long-term thinking and improve through robust process orientation. Our ability to set up new plants is enhanced, resulting in faster ramp-ups and superior quality tyres. CEAT has extended QBM promotion to its partners. With Parichay 2.0, our induction program was revised to strengthen the orientation of new hires in the QBM way of working. We continue to work on our long-term thinking through council-based working and improve policies’ sharpness through robust process orientation. The quality of our problem-solving has continuously improved every year.

### 1.7 Manufacturing Footprint

CEAT carries out manufacturing via a combination of self-owned and outsourced production units. While CEAT’s own manufacturing facilities are in Maharashtra, Gujarat, and Tamil Nadu across 6 locations, namely Bhandup, Nashik, Halol, Chennai, Nagpur, and Ambernath, the key outsourcing tyre units are located in Hyderabad, Halol, Kolhapur, and Kochi. The manufacturing processes and technology in Bhandup and Nashik are traditional, and most of the operations are carried out in manual mode. The newer plants in Halol, Chennai, Nagpur, and Ambernath are equipped with advanced manufacturing processes and technologies. Ambernath is the specialty radial tyre manufacturing plant. The Outsourcing units contributed nearly quarter of the total sales volume in FY22.

Before 2012, CEAT relied on conventional original equipment manufacturers (OEMs) primarily located in Europe, the USA, Japan, and China for tyre manufacturing. In 2012, CEAT created an in-house team to design and manufacture its own tooling. By 2022, the company had developed close to 40 equipment worth approximately Rs 30 Billion

### 1.8 IT System and Digitalisation

CEAT has become the first Indian tyre company to leverage hybrid cloud architecture with the entire ERP & 65% of critical business applications already on the cloud, which will be scaled up to 80 by FY 24. The cloud-first strategy has helped us in reducing IT costs and maintain enterprise scalability and business continuity. Our plants have integrated industry 4.0 technologies into their operations, attaining Lighthouse certification from the World Economic Forum for the Halol plant. We have taken steps to digitally serve our customers through our refurbished e-commerce website, dealer portal, and linked distributor software.

### 1.9 Research and Development

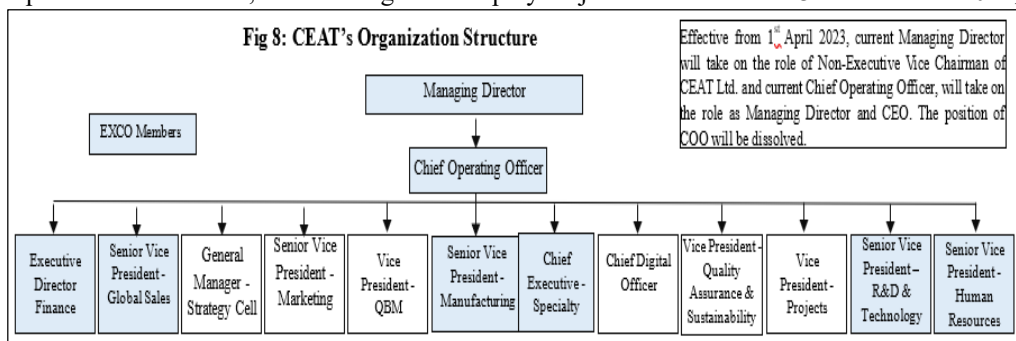
CEAT has adopted and implemented a five-year technology roadmap that drives strategic forecasting of emerging technological changes within the mobility sector. This helps CEAT to develop state-of-the-art products and services for various applications of the automotive industry. Every development initiative at R&D originates from customer requirements that are aligned with the company's vision and strategy. Several break-through products such as puncture-safe tyres, Grip X3 (which provides grip even when the first layer of the tyre is worn out), MILAZE X3 (with a life of 100,000 km), and tyres with coloured tread wear indicators have been launched. In FY22, sustainability was made an integral part of the technology roadmap. The global R&D center set up in Frankfurt, Germany, contributes to bringing global customer insights and technology best practices. Testing and simulation capabilities have been enhanced to enable entry into premium OEMs and reduction in iterations to improve time to market.

### 1.10 Human Assets

CEAT acknowledges that its journey is the reflection of its people-centric culture, passion, and determination of its employees to make mobility safer and smarter. everyday. With continuous learning and development, employee engagement, and a culture of safety & well-being, CEAT ranked 27th in India’s Best Companies to Work for 2022 by Great Places to Work ® Institute. CEAT’s aspiration for diversity and inclusion is a commitment to creating a shared value with empowerment. In FY22, seven transgender employees joined CEAT. As on 31<sup>st</sup> December 2022, CEAT had 7,749 full-time employees.

### 1.11 Organizational Structure

The leadership system in CEAT works at various levels (Fig 8)





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- **EXCOM** refers to Executive Committee Meeting and is chaired by the Managing Director. This committee reviews the Annual Policies, Strategies, and Projects (Policy Management), every month.
- **OpCom** refers to the Operations Committee, which is chaired by the Chief Operating Officer and is attended by all Functional Heads. This committee reviews the monthly operational performance.

### 1.12 Sustainability

While CEAT always believed that a commitment to sustainability creates long-term benefits for its company and its stakeholders. In FY22, it stated its sustainability objective of reducing its carbon emissions by half by 2030. For this, it has placed a strong emphasis on operational efficiency, alternative energy sources, greener materials, circular economy, and water stewardship. As a process to build sustainability, a part of our daily requirement, we have been working to reduce carbon footprints at all levels of our functions, i.e., manufacturing, raw material usage, and distribution. We are building capabilities like footprint measurements, ESG (Environmental, Social, Governance) assessments, integrated annual reporting frameworks, etc., through industry experts, consultant-enabled projects, and self-learning.

### 1.13 Corporate Social Responsibility (CSR)

At CEAT, our purpose of smart and safe mobility extends beyond the road to touch the lives of the people in the communities around which we operate and also the society at large. Key areas of focus of CEAT CSR activities are:

- **Education:** emphasises supporting teachers and schools to develop high-quality learning spaces
- **Road Safety:** CEAT, in collaboration with Raksha Net, has created a fitment device, Safe Drive, which automatically calls for help and notifies loved ones at the time of an accident.
- **Women Empowerment Employability:** to train women from less privileged backgrounds and provide them skills that will enable them to secure jobs in various sectors.
- **Community development:** aims at holistic development of the local communities by enhancing the well-being of people through initiatives under areas of sanitation, hygiene, and safety awareness.

### 1.14 CEAT Financial Highlights (Excluding Subsidiaries) –

CEAT's exciting journey of QBM has played an instrumental role in positively impacting its financial health.

### 1.15 Key Honours and Awards (FY18-FY23):

1. CEAT became the 1st tyre company globally to become part of the Global Lighthouse Network awarded by the World Economic Forum
2. CEAT was ranked the Most Trusted Tyre Brand for 3 years in a row by Trust Research Advisory (TRA)
3. OEM Awards - Received awards from Maruti Suzuki (2022, 2019), Honda (2021), Renault Nissan (2023), M&M (2023, 2019), Hyundai (2019), Hero (2023), and Ashok Leyland (2020)
4. Ranked 4th Best D&I (Diversity and Inclusion) company at the best Diversity and Inclusion practices of Asia Seminar Awards 2020
5. 'Great Place to Work' - Ranked 27 in India's best companies to work for in 2022.
6. Chosen as one of the 'Most Preferred Workplaces in Manufacturing 2022-23' by Team Marksmen.
7. Won the ICF India Coaching PRISM Award 2022 from International Coaching Federation for building a strong coaching culture to demonstrate the positive effects of coaching.
8. 34<sup>th</sup> CFBP – Jannalal Bajaj Uchit Vyavahar Puraskar for Fair Business Practices Award under Large Manufacturing Enterprises category 2021-22
9. Questel India IP Excellence Award, 2021
10. Awarded for Best Risk Management Framework and Systems in Auto Ancillary from CNBC-TV18
11. Most Innovative Business Practice in Customer Experience through Digital transformation by CII

## Chapter 2 Purpose, Vision, and Strategy

### 2.1 Purpose:

In FY17, CEAT decided to create a purpose statement for itself. CEAT’s MD, Mr. Anant Goenka, put across a series of questions to employees, eventually arriving at the brand’s purpose. Some of these were - Why do we all wake up on a Monday morning and turn up for work? Is it only because we need our salaries? Or is it because from the bottom of our heart, we love making and selling tyres? What is it that truly motivates us? What is the legacy that we will leave behind? After intense dialogue and deliberation across the organisation, the purpose was articulated as below (Figure 1). Subsequently, in FY20 through PDCA, we have sharply defined each element of our purpose statement and have created our “Purpose story”:



Fig. 1: CEAT Purpose Statement

- **Safety** to us means safe mobility, safe relationships, and a safe planet
- **Smarter** to us means creating new solutions for our customers based on a deep understanding of our customer’s problems and needs”
- **Every day** to us means living purpose in everything we do and getting better at it everyday

The meaning of our Purpose and what it stands for has been communicated across the organisation. A purpose story document was made, which highlighted the activation of CEAT’s purpose in its entire operations.

**In conclusion,** CEAT could not achieve its vision of being amongst the top 10 in EBITDA of global tyre manufacturing companies. At the end of FY2021, CEAT’s global ranking in terms of EBITDA was 24 (5 places improvement from 29<sup>th</sup> rank at the time of formulation of Vision FY’17-21). Had CEAT achieved all its keystones, it would have still not achieved its vision of FY’17-21 and would have ranked 18.

### 2.2 Vision:

In FY2011, CEAT set its first aspirational vision statement FY’12-16 of **“EBITDA of Rs 10 Bn”**. In FY16, CEAT reported a consolidated EBITDA of Rs 9.7 Bn (against the vision of Rs 10 Bn). During this period, CEAT improved its ranking in the motorcycle tyre category from rank 4 to rank 2 in domestic replacement markets. Also, its market share in the passenger car radial tyre category in the domestic replacement market increased by 3% between the years FY11 to FY16.

#### 2.2.1 Vision & Strategy development process for FY’17-21

The strategy formulation had better rigor through detailed planning of strategy. Key capabilities needed to achieve the vision and strategy were identified. Broadly, the strategy for FY’17-21 was defined using following steps:

- 1) **Execution Milestone:** For each keystone, execution milestones were set for both market share and EBITDA
- 2) **Keystones:** Building blocks identified for channel, products, and branding, especially in the domestic market
- 3) **Review Plan:** Review of building blocks set up by strategy cell to check progress and remove bottlenecks
- 4) **PDCA:** Annual PDCA of strategy planned to ensure that CEAT is on track and take corrective actions if any.

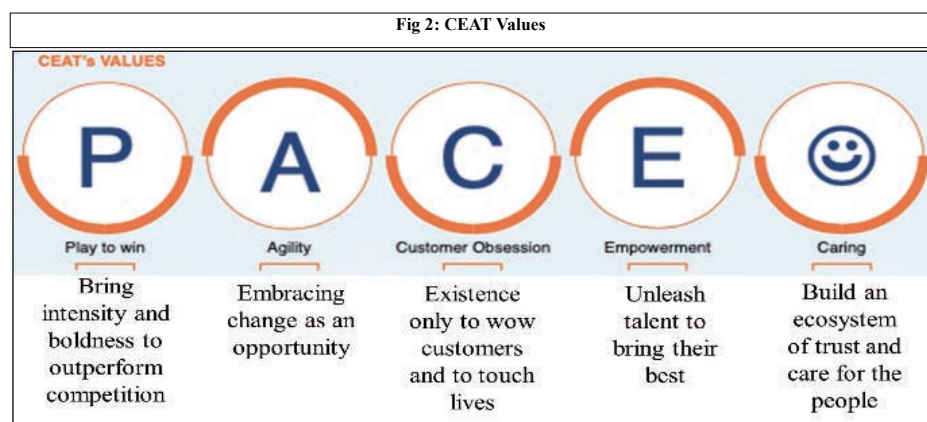
The external environment has been challenging over the past 5 years due to multiple disruptions such as demonetization of high-value currency notes, adoption of a new indirect tax regime (GST), crisis in the Indian financial services industry, and the COVID-19 pandemic. These disruptions have caused unprecedented volatility in demand and supply dynamics.

#### 2.2.2 Vision FY’22-26:

Given our ambition and aspiration for growth, the vision statement was created to reflect our growth aspiration. Thus our new vision statement is a substantial revenue milestone by FY26.

**Values** During the formation of the vision, we re-articulated our values. We conducted

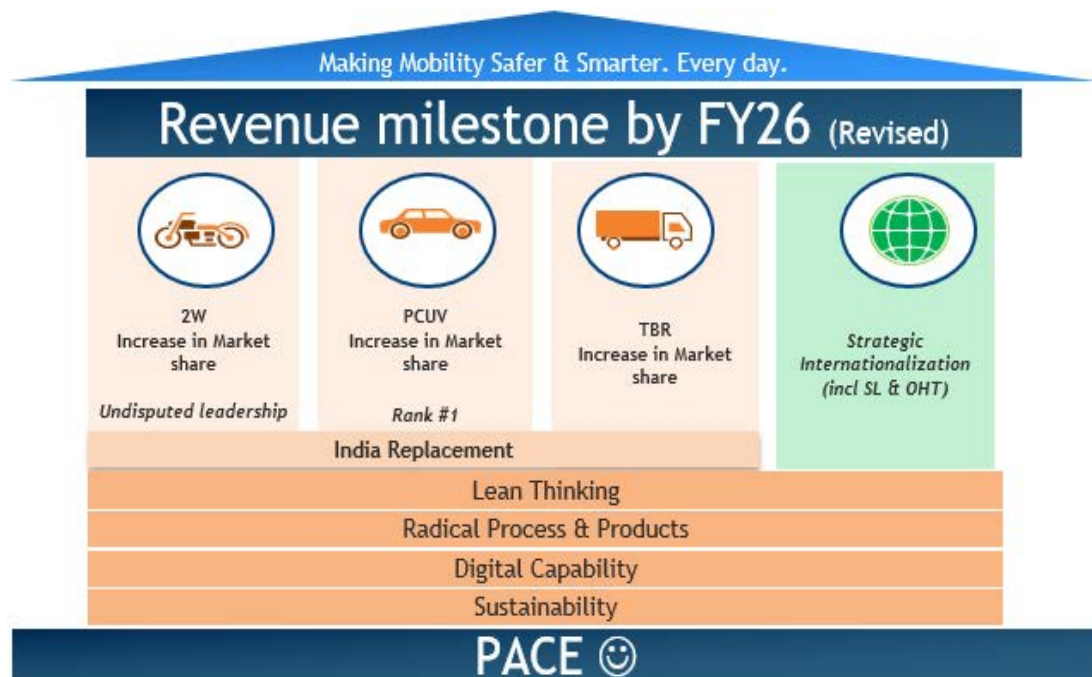
multiple focus group discussions with employees to assess the need for culture change and, accordingly, replaced our old values CAIRO with **“PACE 😊”**, which we believe will help us achieve our Vision FY’22-25. We have retained our core values, like Customer Obsession and Caring, and added aspirational values, like Agility & Empowerment. We believe these values will serve us well on our Vision FY’22-25 journey.



**Annual Strategy Workshop 2022 – Revision of Vision FY’22-25**

In the Annual Strategy Workshop held in November 2022, the senior management formed several cross-functional teams to assess the gaps in vision achievement. The recommendations of each team were debated further during the workshop. One of the key recommendations was to extend the vision period from FY25 to FY26. While the vision was still very relevant and motivating, the market did not grow as envisaged at the time of vision formation. Further, the demand outlook for the coming year is weak in domestic as well as key global markets.

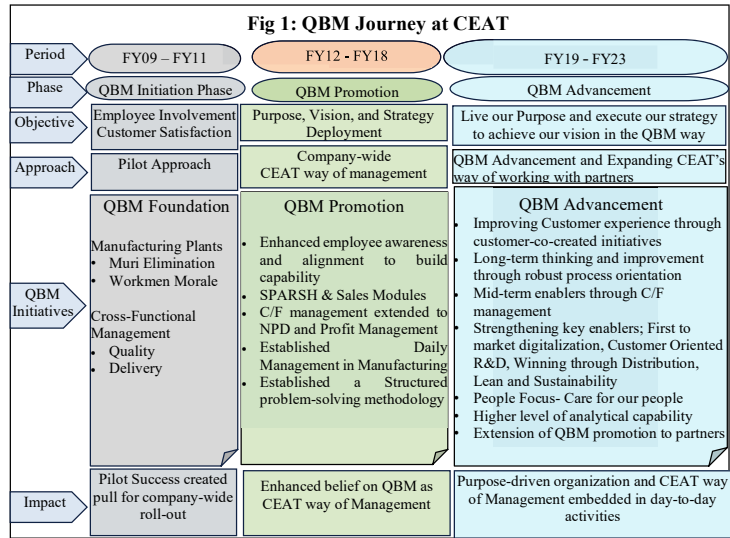
**Fig 3: Vision FY’22-26 (Revised)**



## Chapter 3 Quality Based Management (QBM) Advancement

### 3.1 Overview

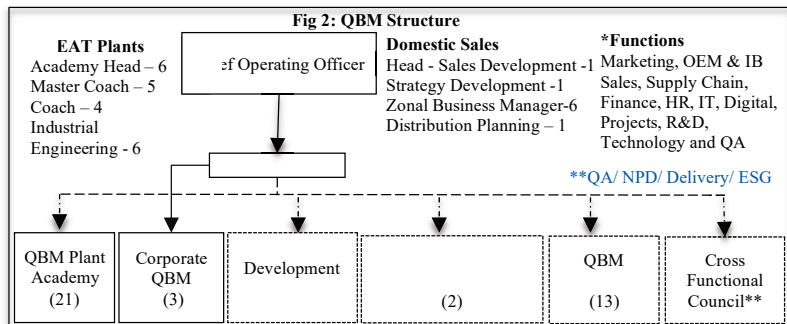
Before initiating QBM, CEAT had experienced a long period of low profitability and financial stress and was not part of top-of-the-mind customer consideration when they purchased tyres in the market since it was predominantly a price player with no differentiated product to offer. By FY08, TQM was considered to reform the management system to improve the company’s health. TQM in CEAT is called QBM. It also incorporates a few tools and techniques from Toyota Production System (TPS) and Total Productive Maintenance (TPM). Our QBM Journey, over three phases, as shown in figure 1, moved from crisis to living our purpose, and our thinking matured from inward focus to customer and long-term orientation.



Winning the Deming Prize in 2017 was a significant milestone and testimony to CEAT’s journey of QBM and customer-centricity. With “Parichay 2.0”, our induction program was revised to strengthen the orientation of the new hires in the QBM way of working as soon as they join.

### 3.2 QBM Structure

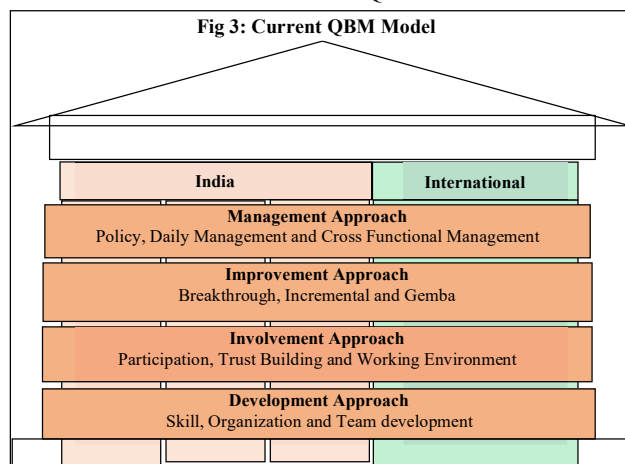
Each manufacturing location has a dedicated QBM academy, as shown in figure 2. The academy reports to the Plant Head with a dotted line reporting to the VP -QBM to strengthen the ownership of QBM by line managers. Corporate QBM implements policy management and cross-functional management and is responsible for QBM development and people involvement across the company. For



the rest of the functions and departments with relatively low employee headcount, a functional resource has been identified as a QBM champion responsible for driving QBM initiatives within its department or function. Apart from this, a two-member QBM academy exists to develop our outsourcing partners and vendors to adopt and implement the QBM philosophy. This structure also supports building the TQM capability through training. Line managers and functional heads are the owners of the promotion and advancement of the QBM within CEAT.

### 3.3 CEAT way of Management – QBM Model

A structure and integrated QBM implementation approach were developed in FY12 in line with the vision and based on the findings from the QBM initiation phase of FY09-12. The same was redefined in FY16 in line with our purpose and vision for FY17-21. This approach for QBM was reviewed in FY20 during the formation of the third vision. The framework was aligned with the new vision; however, there was no revision in the approaches. In QBM Model (figure 3), four approaches are the QBM enablers planned as means for achieving the vertical objectives (strategic keystones) leading to the achievement of the vision. Our QBM model enables the strengthening of mid-term and long-term objectives. Our purpose is ‘Making Mobility Safer and Smarter. Every day.’ is strongly enforced with rapid improvements in quality, innovation, and digitalisation with sustainable initiatives.

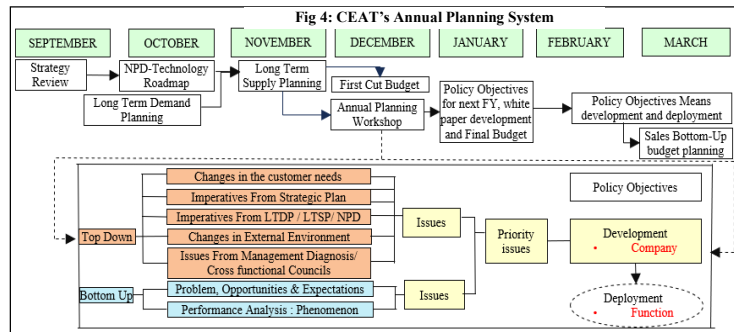




### 3.3.1 Management Approach

#### 3.3.1.1 Policy Management: Strengthening of the policy management system (Strategy 2,9)

Policy development and deployment process are built into CEAT’s Annual Planning system. As shown in figure 4, it is a six-month process starting in September and ending in March. Policy is defined at the company level are owned by the ExCom and OpCom members. These policies are deployed from goal owner to the respective functions.



#### 3.3.1.2 Daily Management – Upgrading DM to deepen understanding of the meaning and role of KPIs (Management Indicators) in management and setting the right indicators

While policy management focuses on strategy, daily management focuses on maintenance plus enhancement and improvement, practised by all employees at all levels and functions. To strengthen the DM post winning the Deming Prize, we have revisited role templates and included the operational definition of KPIs with categorisation under QCDSM parameters.

#### 3.3.1.3 Cross-Functional Management- Enhancing cross-functional management to focus on medium-term enablers (Strategy 3)

To achieve the targeted Quality and Delivery parameters with the highest impact on customer satisfaction, a horizontal virtual structure was established at CEAT through cross-functional councils. Cross-functional management has become a way of working at CEAT. Councils drive the improvements and help to achieve mid-term enablers. The inputs from the Cross-functional council are considered for our annual planning system to set a policy objective for the company.

### 3.3.2 Improvement Approach

In CEAT, all improvements are classified at four levels, as shown in table 1. L1 and L2 are Gemba-based improvements. The goal is to encourage participation by all in improvements. Only implemented suggestions are considered as Kaizens. L3 improvements are driven by Quality Control Circles (QCC) or ‘SPARSH Circles’ consisting of frontline workmen and associates. L4 improvements are made through Quality Improvement Projects (QIPs). QIPs are taken up by cross-functional teams and solve chronic issues affecting the key KPIs in the QCDSM spectrum in any function. Members of the CFT are trained in problem-solving methodology.

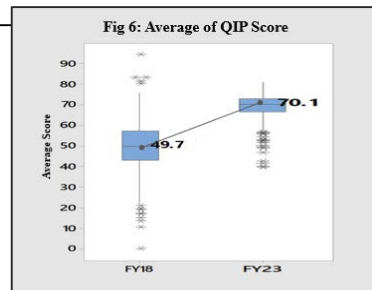
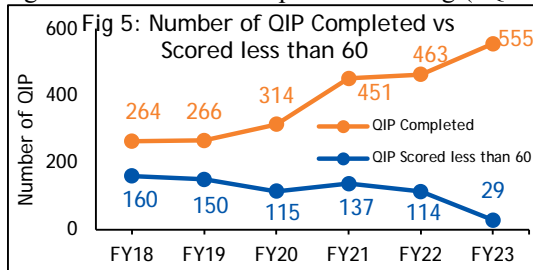
| Levels                | L1                               | L2              | L3                                      | L4   |
|-----------------------|----------------------------------|-----------------|---|--|
| Stratification        | Idea / Kaizens                   | Why-Why Kaizens | QC circle (SPARSH circle)               | Execution/ Problem Solving / Task achieving QIPs |
| Improvement Level     | Suggestions                      |                 | Incremental/radical                     |  |
| Improvement Type      | Individuals                      |                 | Small Group Activity (12-Step Approach) | Team (7 Step Approach)                           |
| Typical Grouping Type | Workmen/Supervisors/Salespersons |                 |   | Managers   |
| Typical Personnel     | Typical Daily Management         |                 |   | Daily & Policy Management                        |
| Management Bucket     |                                  |                 |   |  |

#### Strengthening the problem-solving & maturity of the Quality Improvement Project (QIP) (Strategy 13)

We have our own QIP methodology to solve problems.

Function wise and position wise training system is strengthened. Special training has enabled our managers to focus on root causes. 100% of managers are covered under problem-solving (7QC

Tools). While 1100 Plus managers are trained in Hypothesis testing, 390 and more managers are covered in advanced problem-solving. 40 plus managers have undergone the PGDQM program at Mahindra Institute of



Quality (MIQ), 120-plus have trained in DOE, 40 plus on TRIZ, and 320 plus on Design Thinking. All QIP projects are assessed by an external institute MIQ. As a result, the percentage of QIPs scoring 60 and above has steadily increased from 39% in FY18 to 75% in FY22. The number of QIP projects completed has also witnessed a rising trend over the years, as shown in overall effects (Fig: No 5). The median maturity score improved from 49.7 to 63 (Fig: No 6).

### 3.3.3 Development Approach

Capability development for all employees is addressed under two main branches: QBM and Functional/Business skills. The basic awareness course starts with the new employee induction program, covering 100% of people. For current employees, the courses range from basic to advanced training modules, taken up by both internal and



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external faculty to build capability in the organization related to QBM.

### 3.3.4 Involvement Approach

(1) **Trust Building:** As an outcome of various QBM activities, the engagement of managers as well as workmen/associates is measured through various internal and external means. Our old plants, Bhandup and Nashik, have been completely transformed, and the situation has changed to a safe, secure, and happy workplace. The system of recording employee grievances through the red book/digital portal and resolving them before they become big irritants has effectively developed this trust across all plants.

(2) **Participation:** Employee satisfaction is reflected by improvement in the GPTW scores. CEAT had risen from unranked in 2017 to 27th rank in India in FY 22. This increase in employee satisfaction is an indication that actions taken are in the right direction. The outcome is visible in the increased total employee involvement score over time as shown in table 2.

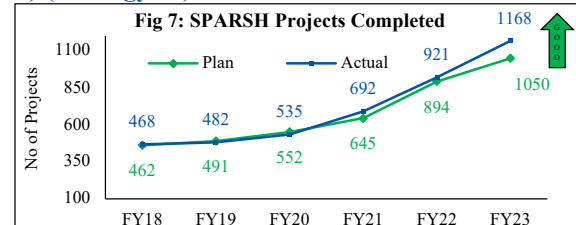
| People Involvement   |     | FY23 YTD Feb'23 Cumulative Score |                     |                |
|--|-----|----------------------------------|---------------------|----------------|
| Functions / Departments  | TEI | QIPs                             | Kaizen/Person/Month | SparsH Circles |
| Manufacturing functions  | 100 | 378                              | 1.39                | 835            |
| Non-Manufacturing functions  | 100 | 177                              | 0.82                | NA             |
| Manufacturing includes Production Engineering, QA and Technology functions of all plants |     |                                  |                     |                |
| Non-Manufacturing functions, including all corporate functions                           |     |                                  |                     |                |

(3) **Boosting Employee Morale:** Employee morale is boosted through various internal rewards and recognition schemes and external forums for SPARSH circle. Every year we participate in state-level Chapter Convention on Quality Concepts (CCQC) and national-level National Convention on Quality Concepts (NCQC) competitions and win awards. In FY22 first time, we nominated five teams for an international level competition (ICQC-International Convention on Quality Concepts), and all five teams won the “Par Excellence” award, as shown in table 3. We presented four papers at the 19th Asian Network for Quality ANQ Congress 2021, and our one paper won the best paper award. We have also participated in the final Quality Sustainability Award competition 2021 held by IAQ (International Academy for Quality). Every year we conduct a CEAT-level QIP competition, ‘QIP Mahasangram’, to identify and share the best examples of how systematic problem-solving methodology is being used to develop sustainable solutions and offerings while leveraging statistical tools and techniques.

| Year | Convocation | 1st Prize | 2nd Prize | 3rd Prize |
|------|-------------|-----------|-----------|-----------|
| FY18 | CCQC        | 22        | 5         | 0         |
|      | NCQC        | 10        | 5         | 3         |
| FY19 | CCQC        | 36        | 24        | 1         |
|      | NCQC        | 6         | 14        | 1         |
| FY20 | CCQC        | 52        | 17        | 0         |
|      | NCQC        | 10        | 24        | 0         |
| FY21 | CCQC        | 35        | 1         | 0         |
|      | NCQC        | 8         | 19        | 3         |
| FY22 | CCQC        | 71        | 10        | 0         |
|      | NCQC        | 12        | 33        | 6         |
|      | ICQC        | 5         | 0         | 0         |
| FY23 | CCQC        | 88        | 7         | 0         |
|      | NCQC        | 22        | 17        | 1         |

### Intensifying participation in the SPARSH circle (QC Circle) (Strategy 15)

SPARSH Circle improvements are Gemba based and more scientific in nature compared to kaizens. The SPARSH circle was initiated in 2015 at Bhandup and Nashik plant. The horizontal deployment was done at Halol and Nagpur plants in 2016. The further practice was adopted for Ambernath in 2018 and the Chennai plant in 2022. Post Deming Prize, the QCC training has been strengthened based on the structured plan, with new circles formed, resulting in an increase in projects, as shown in figure 7. Annually SPARSH Circle internal competitions are done.

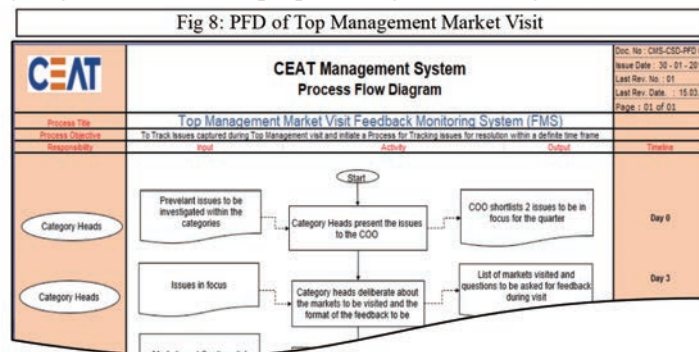


### 3.4 Improving Customer Orientation

In 2017, CEAT evolved from a product selling company to a solution provider addressing the mobility needs of the customer through its purpose ‘Making Mobility Safer and Smarter. Every Day’. Our values “PACE 😊” has “Customer Obsession” as its core value aligning with our overall purpose. Organisational goals are linked to CEAT’s customer-centric vision of enabling safer mobility on the roads and all our initiatives are insights led and cross-functionally deployed.

### Market visit by Top Management (Strategy 6)

To assess the market situation and to obtain feedback from the customers and channel partners, the CEAT top management conducts a market Gemba on a period basis (as shown in fig 8).



## Chapter 4 Challenging Strategies and Actions

### Chapter 4a Building High Customer Engagement

#### 4a.1 Overview

CEAT's journey as a customer-centric organization strengthened in 2012 with the decision to start focusing on customer satisfaction rather than chasing profits. This shift created delighted customers leading to higher brand equity. In 2017, CEAT evolved from a product selling company to a solution provider addressing the customer's mobility needs through its purpose 'Making Mobility Safer and Smarter. Everyday.'. CEAT's "PACE 😊" value has "Customer Obsession"



Fig 1: Standard Customer Experience

as one of the core areas. The purpose of customer engagement is – We are customer obsessed, we deliver seamless experience throughout their journey by



Fig 2: CEAT Shoppe

being thoughtful and differentiated and creating engaging & standardized actions.

#### 4a.2 Objectives

**4a.2.1 Enhancing customer delight through standardized experiences** (Fig: 1) All major touchpoints across categories were evaluated. The most influential touchpoints were identified for experience enhancements – CEAT Shoppe for 4-Wheeler, Mechanics for 2-Wheeler, and Quality Assurance for Truck Bus Radial (TBR) categories.

##### 1. CEAT Shoppe (CS):

- **Retail Design** (Fig:2) of the new CEAT Shoppe is aimed to provide a more premium, standardized and delightful in-store consumer experience led by a Product Inspiration zone, Transaction zone, Service Fitment zone and a waiting zone. The store delivers calibrated standardized machinery finetuned for the best fitment for the vehicle.

- **Training Program** for CEAT Shoppe aims to train the store owner and the staff on the identification of consumer needs, product recommendation, ease of Warranty and service registration. Effectiveness is evaluated through Mystery Audit every quarter

- **Measure of Improvement:** Purchase NPS

##### 2. Mechanics Engagement

For 2W customers, Mechanic is the biggest influencer at the point of purchase (44% influence – reference BCG report). We developed a program to establish a direct connect with the mechanics through a Mechanic Loyalty Program via a mobile app using digital payments. This also helps us in gaining qualitative feedback from them, which we utilize in our product and policy improvement.

**Measure of improvement:** Number of mechanics enrolled in Mechanic Loyalty Program

##### 3. Quality Assurance for Sales - Customer acquisition & retention in Truck and Bus Radial (TBR)

TBR sale relies on performance, the right application comparison & usage. We have developed Integrated Fleet Management (IFM) which is a singular platform to showcase fleet performance with national and localized information. IFM helps to showcase product performance, training contents, testimonials, and sales performance, thereby adding trust. This builds a strong conversation for 'application to right fit', which is needed for customers. We are continuously working on improving the overall adoption level and incorporating new modules.

**Measure of improvement:** Increase in fleet acquisition and retention.

#### 4a.2.2 Avenues for direct customer connect.

1. Website & Contact Centre
2. Community & regional customer day
3. Detractors' Connect from NPS measurement

**1. Website | Social Media listening – Online Reputation Management | Chatbot | Contact Centre (Passenger Category – 2W+4W)**

In line with digitization, we have enabled online platforms viz CEAT.com, WhatsApp chatbot and our social media channels to receive and respond to feedback in real-time. Our customers can share their queries and feedback with us through these platforms. We address these queries by replying to consumers on their respective platforms. If a query needs further intervention, our Contact Centre calls the customer and attempts to provide a resolution within less working days. We conduct verbatim analysis based on comments we receive and work on the phenomena arising through affinity.

**2. Connecting with customers**

➤ **Riding Community work with consumers (2W)**

We work directly with the consumers through the biking community to build a direct relationship with them and for them to understand our products better. Also, provide to basic education on tyre and road safety through events such as CEAT Discovery rides, xBHP (x-Braking Horse-Power), India Bike Week (IBW) and Royal Enfield meet-ups. We started this initiative in FY22 and have been able to enrol around 1000 bikers across the country. We plan to measure the ROI of the program by monitoring the increase in fitment amongst the consumer met.

➤ **Regional Customer Day (Commercial)**

It is a mass consumer engagement process in the commercial category (Fig: 3) wherein each regional office conducts a mass awareness campaign twice in a month in transport nagar, mandis, unions, etc. The core objective is to drive meaningful engagement with customers and reinforce confidence to our channel partners as well. We connected around 10000+ customers through this initiative and continued. This drive has helped improve our radial tyre perception and increase our premium product saliency from 50% in FY22 to 60% in FY23.



**Fig 3: Regional Customer Day**

**4a.2.3 Enabling customer convenience through digitally enabled solutions (e-claims)**

In line with our PACE policy of “Customer Obsession”, we have continuously revamped our Claim resolution process, keeping in mind the convenience of our customers. We

conceptualized a solution to enable the dealers to manage the end-to-end claims settlement process from docketing to decision-making to replacing the tyres through a digital platform. We also introduced the “Auto CN” policy wherein dealers can opt for credit notes

through our app “CEAT Assist” while settling claims, and the same gets generated within an hour. With this effort, we have been able to resolve 70% of our monthly claim tyres through the “Spot Resolution Process”. More than 80% of our spot resolution for PCUV & 2W tyres is enabled through this network. In line with our digitization process, we focused on mitigating customer pain by eliminating the dependency on dealers and encouraging autonomy. This was achieved by developing an online claim settlement system that empowered customers to submit tyre claims on their own through multiple avenues and avail quick resolution.

**Impact** - The drastic reduction in claim cycle time has resulted in improved customer sentiments, as reflected in our claim NPS scores



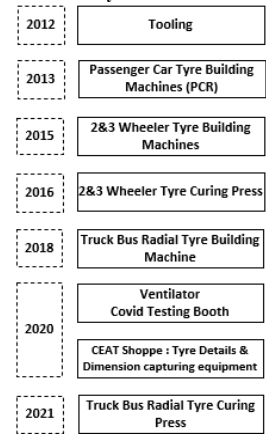
**Fig 4: Claim Cycle Journey**

## Chapter 4b Building Own Machines

### 4b.1 Overview

- Prior to 2012, CEAT relied on conventional original equipment manufacturers (OEMs) for tyre manufacturing. These OEMs were mainly located in Europe, USA, Japan, and China. OEM Equipment's had high lead times ranging from 9-12 months, inflexibility in customizing machine features, and proprietary software that was not accessible to in-house engineers. Tyre being a capital-intensive industry, Most of the investment goes into machinery, which comes with additional project financial cost due to fluctuations in forex, hedging, transportation cost and gives additional obligations of export.
- During Greenfield Project at Halol from 2008 to 2010, CEAT was totally dependent on tooling from OEM vendors. This resulted in a monopolistic where even the smallest customisation was not possible. So CEAT decided to start designing and manufacturing its own tooling in 2012. This allowed for greater control over the design process and customization of machines. In 2014, CEAT took this initiative further and established a separate department within the company for machine manufacturing. By 2022, the company had developed close to 40+ equipment worth approximately ₹4.7 Billion.

Fig 1: Development of Equipment over the years



### 4b.2 Optimizing the manufacturing system enables multiple product development by integrating Product Life Cycle Management Software (PLM) with the design & procurement software.

- Every equipment requires approximately 1000 drawings, and we developed almost 91000+ drawings (around 50000+ Original Drawings) till now. Standardisation & managing the drawings with the Bill of Material of each equipment is a major challenge. There was a gap of 30 days between the expected timeline for ordering and the actual ordering. Also, there was a rework of 12% in drawings.
- When we manufacture equipment in bulk quantity and variety, controlling the parts in high quantity and quality is a challenge. This is because, in a typical tyre-making machine, some parts are fabricated locally, a lot of them procured as bought out from vendors across the globe. Timely ordering and receipt of the parts according to the assembly schedule, controlling their dimension, and verifying the adequacy

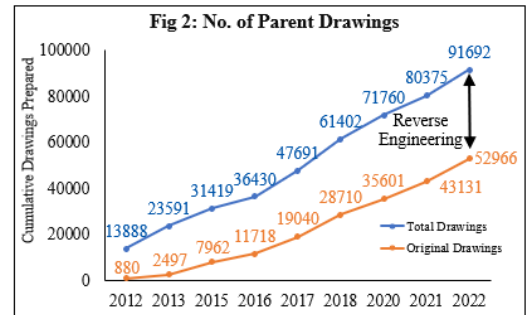
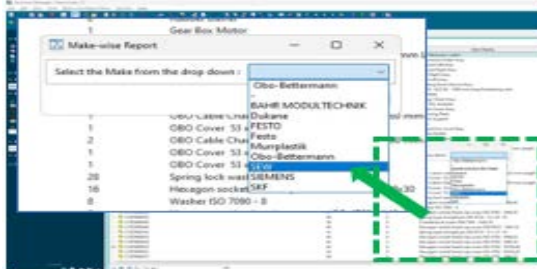


Fig 3: PLM software Make-wise report downloader



Customized Transaction code in ERP

PLM Engineering : Creating PR

Bill of Material from PLM transferred to ERP  
Program for Ordering

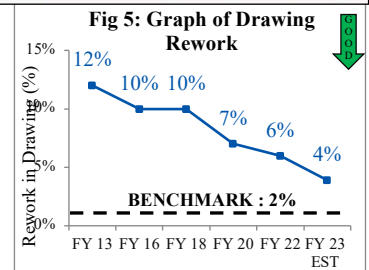
File Path: D:\plm\MakeViseReport\_CED0024000540-B&T Drum\_THK.xlsx

| Material           | Plant | PR Number  | PR date/G  | Error | PR upload_Q | PR created_Q | Requisitioner | Purchase Gr. | WBS Element | Tr |
|--------------------|-------|------------|------------|-------|-------------|--------------|---------------|--------------|-------------|----|
| 000000000020242498 | 1040  | 2200018305 | 11.02.2023 |       | 1.000       | 1.000        | MEC           | PJ6          | G/C01-TBM_  |    |
| 000000000020242499 | 1040  | 2200018305 | 11.02.2023 |       | 1.000       | 1.000        | MEC           | PJ6          | G/C01-TBM_  |    |
| 000000000020249637 | 1040  | 2200018305 | 11.02.2023 |       | 1.000       | 1.000        | MEC           | PJ6          | G/C01-TBM_  |    |

Fig 4: BOM from PLM transferred to ERP

against the specification is a mammoth task and impossible to control by manual method.

- The Major Analysis shows that the delay is due to the manual effort of extracting data from the design software to the procurement and manufacturing software. The rework is mainly due to the errors generated and the copying of the drawings and dimensions at multiple levels.
- All the 3 software are independent. Hence, we have thought of integrating the three platforms which we used to design, procure & control the manufacturer, namely 3D design software, Enterprise Resource Program (ERP) and Product Life Cycle Management (PLM) Software. With the help of CEAT's IT team, ERP team and vendors, all the 3 Software compatibility was established, customisation of certain Transaction codes was developed, and after adequate trials of 6 months, a linkage was established between all three platforms.



## Chapter 4c Developing Breakthrough Products and Radical Process Technologies

### 4c.1 Overview

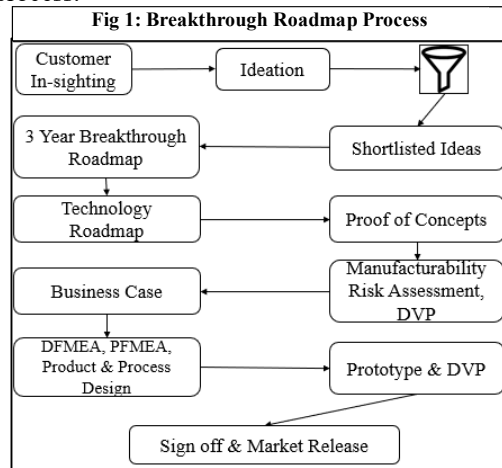
CEAT had achieved the No.2 position in Two-wheeler in India by the time CEAT received the Deming Prize in 2017 and was in the catching-up phase in other product categories. It was vital to create a differentiated offering in terms of products and process to stand out from the competition. Hence, breakthrough products and radical process are included as an enabler to achieve the company Vision FY22-26 for creating first-time in world or India product/process solutions.

Today, CEAT is the 1st tyre company globally in a 2-wheeler to launch puncture safe & first in India to introduce visual safety features like a colour Tread Wear Indicator. The impact of these efforts is seen with a 10 times growth in the patent application filing rate of CEAT. Also, CEAT is adopting the lean solution for its radical process design, challenging the traditional approaches for the tyre manufacturing process.

### 4c.2 Breakthrough products

CEAT define breakthrough products as (1) First Time Globally/India (2) Completely new way of addressing the pain point (3) Manufacturing easiness.

A new process for creating breakthrough products (Fig.1) was evolved, consisting of customer in-sighting followed by idea generation through brainstorming, custom forecasting, competitive research, and expert insight. From a large number of ideas, a few projects are shortlisted based on above mentioned criteria and ease of development and manufacturing. Required manpower, machinery, and expertise for shortlisted ideas are converted to projects for effective monitoring. The idea is first validated on a small scale, then pilot scale and finally on a plant scale. If all results are satisfactory and meet set targets, then the idea is implemented.



### 4c.3. India's First Coloured Tread Change indicator [TWI] feature for Passenger Tyres

One of the general observations during the customer interaction was that the existing tread wear indicators were not really helpful in identifying the tyre usage limits beyond which the tyre becomes unsafe. This was taken as a challenge. Safety is an important element of CEAT's



Fig 3: Impact of change

purpose, "Making mobility safer and smarter. Every day".

An internal cross-functional team was formed, 31 ideas were screened through Pugh Matrix and Post intellectual property disputes screening, and prototypes of shortlisted concepts were rated based on ease of identification of tread wear indicator (Fig2). With our novel co-extrusion process tool designs, this feature (Fig3) is introduced in 2 products manufactured from CEAT's new manufacturing facility in Chennai. Suitable vendor selection for colour compound mixing & process improvements were carried out for continuous sheet form resulting in a consistent colour compound profile. The marketing communication was also created to explain tyre change in an easy manner (Fig4).

### Fig 2: Prototype screening

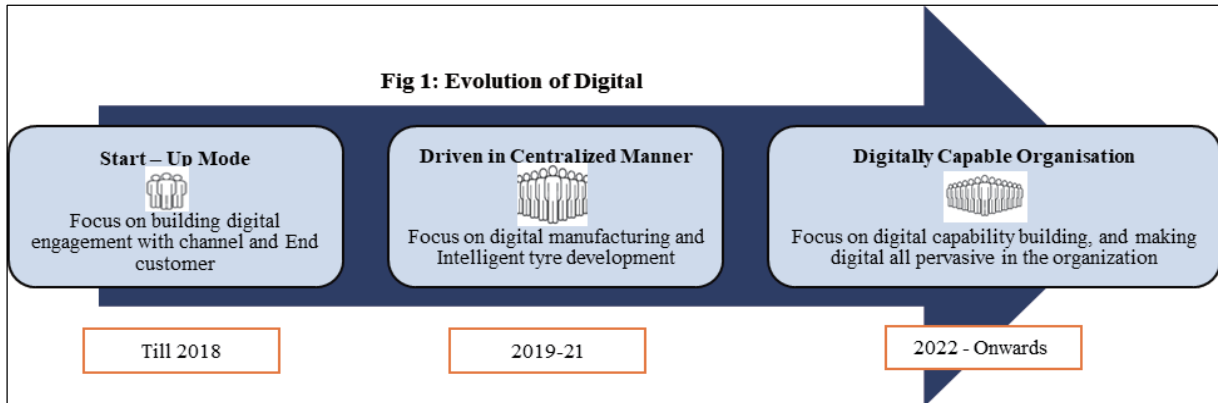


Fig 4: Digital campaign

## Chapter 4d Digitalization Across Functions

### 4d.1 Overview

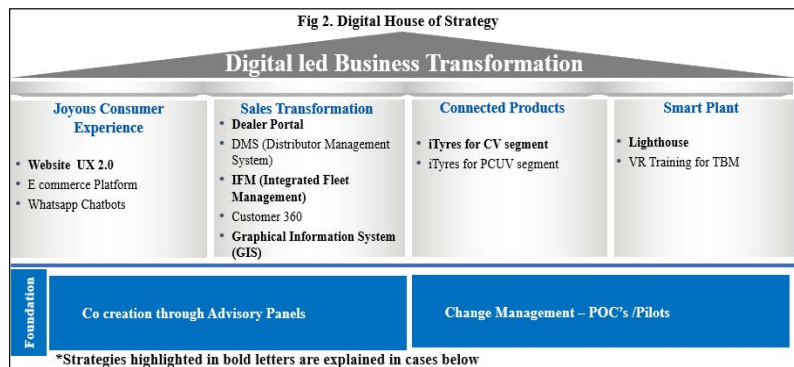
CEAT’s focus until winning the Deming Prize was on providing the necessary IT backbone for process controls and automation. After being awarded the Deming Prize, Digital was identified as a key enabler to achieve CEAT’s Vision. CEAT’s digital journey till date is made up of 3 distinct phases:



CEAT has now created frictionless user journeys as a differentiator, developed connected products leading to unique business models, implemented industry 4.0 to drive cost advantage in plants and supply chains and unleashed the power of data for better decision-making. We are building Digital capability across departments to identify opportunities across the value chain.

### 4d.2 Digital House of Strategy

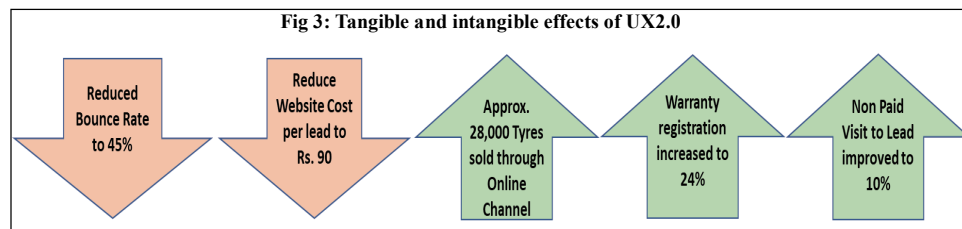
The driving principle of digitalisation at CEAT is to solve business problems or capitalize on opportunities (especially the advancement of customer centricity). The digital-led business transformation house as shown in fig 2 was developed to establish the relationship with business objectives with Digital being one the four enablers in CEAT’s vision document.



#### 4d.2.1 Joyous Customer Experience

To drive significant sales and retention through online channels, we mapped CX journeys of digital savvy customers to identify the friction points and leveraged digital to remove the friction and improve satisfaction.

**4d.2.1.1 Website UX 2.0:** Post-launch of CEAT.com, we looked at analytics data and analysed customer responses, to realize that there were gaps in user journey that needed to be plugged to enhance experience and improve on key KPI’s. Basis feedback, we prepared new wireframes incorporating customer inputs and creating alternate designs and went back to customers to decide on which option works best. Basis their preference, we selected the final design which was implemented on the

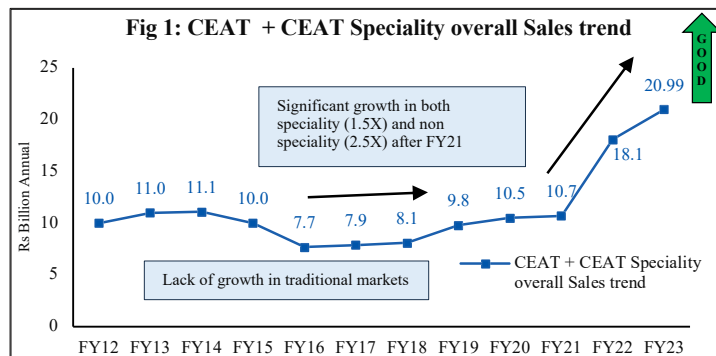


website and the impact of the changes, both tangible and intangible as shown in figure 3.

**4d.2.2 Sales Transformation** Channel partners in CEAT used to be highly dependent on sales team for information on their business which involved the sales team to carry downloaded copies of dated reports to share with dealers. Digital transformation of system was required to ensure availability of data in real time and also provide access to this information to channels partners in a convenient manner.

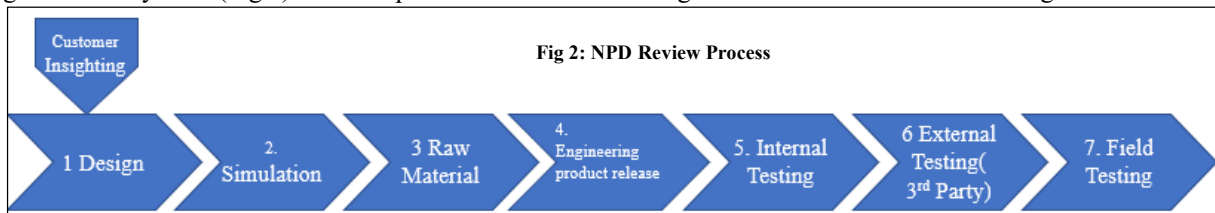
### 4e.1 Overview

Inspired by its Purpose of Providing Safer and Smarter mobility to consumers all across the globe, CEAT is one of the major exporters among India’s tyre manufacturers, with sales to 100+ countries across all continents. CEAT’s international sales come from a wide range of categories ranging from Specialty Tyres like Off-Highway Tyres (OHT) and Farm Tyres to non-Specialty Tyres like Truck Tyres, Passenger Car and 2-Wheeler Tyres. CEAT international sales has grown significantly, especially in the last 3 years (Fig 1)



CEAT’s international business is more profitable vs. overall CEAT. It has also helped increase organisational capability in product development, manufacturing, and global sales as CEAT has needed to develop products tailored for international market needs which did not exist within India. CEAT aims to grow its international business to achieve vision by FY 26.

**Build capability of OHT Radial product development** One of the key requirements of the strategy was to have fast launch of multiple new products. For this an OHT R&D centre was set up which had a dedicated facility for Radial testing and employed a separate team of domain experts to ensure infusion of knowledge and experience. Special domain expertise for design & development of tyre, testing, compounding, and heat engineering were introduced. For faster & first time right New Product Development (NPD), 7 stage process was developed with a gate review system. (Fig 2) In-house product and material testing facilities are also validated through external third-



party Performance testing (Institutions/Universities) to determine critical performance parameters viz competition. Latest design platforms such as advanced software’s with 2D & 3D designs, were introduced to ensure first time right product design. Inhouse Finite Element Analysis (FEA) for 100% of NPDs, first time used in OHT segment to ensure that each of the NPDs are virtually tested through simulation before mould manufacturing. This ensured fast introduction of the products in the market with limited iterations and minimum chance of failure in the field.

The product validation system was strengthened through independent testing at globally recognised Agencies. Latest technology equipment/ machineries are installed in tyre manufacturing & testing to produce quality products are offered to the market. This has resulted in CEAT having the following:

- Satisfied customers with Product performance, dubbed as “defect-free tyre” by our customers, with best in the industry manufacturing claim figures at low as compared to competition.
- 80% of the products were released with single prototyping.
- 605 NPDs released in a span of 6 years till FY23
- Entry in premium OEM (AGCO, JD, CNH, JCB, BOURGAULT) and next level of OEM (FLIEGL, METALCANA, MARCHESAN etc).



## Chapter 4f: Establishing the service model – CEAT Fleet Solutions (CFS)

### 4f.1 Overview

Our TBR (Truck Bus Radial) sales for Replacement Business Unit happens through Muti Brand Dealers, Exclusive Tyre Service Hubs and Truck Fleet customers. The total Truck Tyres Market is 1.13 Million tyres per month in which around 56% is Truck Bus Radial, CEAT Fleet Solution (CFS) has more SOB (Share Of Business) among CFS Customers. (Refer Fig1)

The Truck fleet customers owns and manage operations of a sizeable number of trucks. For a Truck fleet customer, tyres contribute to 7% of the total cost of operations and is the second highest variable cost after fuel. Apart from being a direct cost head, tyre management impacts several other indirect costs like fuel, down time and maintenance costs. Tyres are also crucial for safety of the driver and the load that truck is carrying. Despite this, tyre management is not an area of focus for most of the Truck fleets. Tyres are generally managed in an ad-hoc manner and most tyre related decisions are not backed by data. We identified this pain points of the truck fleet customers and curated CEAT Fleet Solutions (CFS) Program, which is service-&-technology led program for Truck fleet customers. The program offers tyre inspection, maintenance and advisory to improve tyre life of a fleet and reduce the time spent on daily operations. This service is offered against a minimum tyre purchase commitment from the fleets. This program acted as a market differentiator for us, by FY23 exit CFS (CEAT Fleet Solutions) business is expected to contributed CEAT Replacement TBR sales. This will increase by FY25 end. The CFS business caters to truck fleet customers currently and has increased 74% between the year from FY19 to FY23 Dec'22.

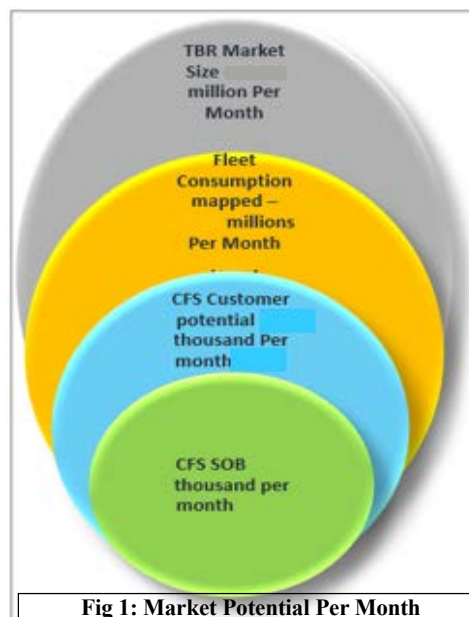


Fig 1: Market Potential Per Month

### 4f.2 Building a best-in-class digital-first tyre management solution business

CFS leveraged digital and technology to continuously optimize the tyre Cost Per KM for its customers. We worked on 4 pivots to provide digital tyre management solutions on a large scale for our customers: **Digital ERP (Enterprise Resource Planning) solution called e-fleet solutions:** It digitized day to day tyre management related operations at fleets. This included using a mobile app (Fig 4: Tyre Check+ app) to maintain tyre receipt, inspection, maintenance and scrap related records which could be accessed by customers on real time basis.

- **IoT (Internet of Things) based smart inspection equipment:** The tyre inspection data (like Tyre tread depth and Pressure) was being recorded and fed into the system through manual gauges. This was time consuming and led to manual errors. IoT based smart probes were developed which could digitally transfer tyre inspection data to e-fleet solutions mobile app, thereby reducing the manual errors and help customers get access to reliable data.
- **End to end solution to run PPU business:** Exhaustive IT integrations were done, and new workflows were created to manage monthly commercial transactions with our customers.
- **AI/ML (Artificial Intelligence & Machine learning) based predictive algorithm for tyre life:** Data integration from installed devices like GPS (Global Positioning Systems), TPMS (Tyre Pressure Monitoring System) was done which helped us gather data impacting tyre life. An algorithm was developed based on the data gathered to predict tyre mileages for our prospective customers basis their application.

### 4f.3 Sales Delivery Interventions

A must-win fleet list of top-100 Truck fleets was populated and Fleet Service Specialist (FSS) were appointed in 6 big Regional Offices to push conversion of these fleets. A Fleet Service Specialist (FSS) was appointed for each fleet to ensure on field implementation of actions related to tyre life improvement. A new Key Account Management module was developed and entire field force was trained. To improve the service delivery, Service Training Module and Fleet Service Specialist Lifecycle Management module were introduced.

### 4f.4 Increasing involvement of field force

Clear roles for the team were defined and input parameters were included in the Yearly Goal Sheets. For e.g. new KPI of FOE (Fleet Operational Efficiency) was designed for Fleet Service Specialists which included inputs on number of tyre inspections and on time corrective & predictive maintenance. KPIs like Issue resolution time of FSS complaints were monitored and improved. Monthly communication and review of sales and service KPIs were set up in the Zonal Review and Service MOR forums. In addition, 2 separate sales contests were run to keep the team engaged towards aspirational goals.

### Chapter 5a Quality Assurance

#### 5a.1 Overview

Quality Assurance in CEAT covers the entire value chain, starting from business planning and product development to sales, service, raw material suppliers, and manufacturing, including Outsourcing vendors. The input quality of natural materials (like natural rubber) varies from batch to batch. The Tyre manufacturing process itself is a combination of process & assembly. Combine that with varying customer requirements by category of vehicles, business units, & applications, and it creates a very complicated task for quality assurance. To tackle this complexity, a robust quality management system was implemented at CEAT. Each OEM demands compliance and adherence to specific Quality management systems, such as Volkswagen, Renault, Nissan, Suzuki, Hyundai, Honda Motorcycle, Yamaha, Hero, JCB, Caterpillar, TATA, Royal Enfield and Mahindra & Mahindra. CEAT also caters to domestic replacement markets and international markets, exports worldwide to clusters such as the Middle East, Africa, Southeast Asia, Latin America, Europe, USA etc. The total product portfolio comprises of 1300+ SKUs, and on average, 170 new products, including speciality, are developed annually in line with CEAT’s vision and strategy. Tyres are produced from 6 own manufacturing plants and at outsourcing units for Truck Bus Bias, Truck Bus Radial (TBR), Passenger Car Radial (PCR) and 2-Wheeler categories using 304 different types of raw materials sourced from 170 suppliers and 66 rubber dealers for natural rubber procurement.

#### 5a.2 Improvements in the Quality Assurance system

**Quality Council:** In order to take policy decisions related to end-to-end quality from a customer viewpoint, there is a cross-functional Quality council led by top management and the chairmanship is rotated among Executive Committee members and is currently chaired by Senior Vice president – Global sales, to bring a wider CFT orientation for top management, the current objectives of the council are

- Shift focus from inside-out to outside-in: More focus on the onboarding voice of the customer
- Adoption of special projects for system upgradation: Mould management, Complaint Management
- These objectives are driven through combination of mid-term (3-5 years) and short-term objectives (1-2 years),

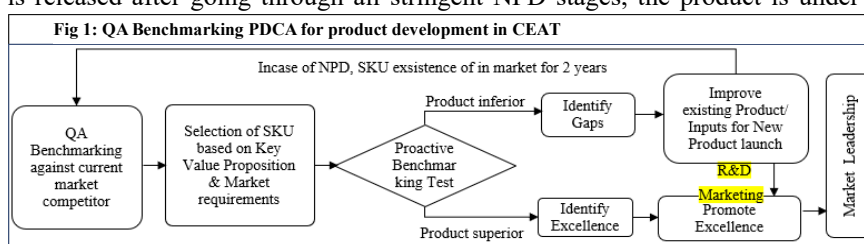
**Improvement in the Quality system:** The quality management system changed by customer segment by product category. Eg. Addition of fitment tests for 2W OEM customers and the introduction of CoP testing for the International Business Market. Review & revision of existing systems like Raw material/Supplier evaluation system etc. These have allowed us to become more proactive, reduce risks, and improve First Time Right- Annexure.

**Upgrading of New Product Development QA for better customer insights:** Statement of Requirements (SOR) document developed based on market in-sighting, is the foundation of new product development (NPD) which serves as an input to the design team on specific product requirements (Stage 1 of NPD). However, claims and complaints related to new products were continuously increasing. A deep dive into the SOR capturing process revealed some gaps based on existing NPD SOR, New SOR format designed as mentioned below.

| Table 1: Statement of requirement mapping   |  |
|---|--|
| Before SOR Modification   | After SOR Modification   |
| Category-wise different formats for business case, no specific format for tube & flap customer requirement.                                   | Common business case format created along with tube & flap   |
| End user requirements are inadequately mapped for OE NPD projects, as terrain, application, vehicle usage and expected mileage are not clear. | End-user requirements like usage application (e.g., Terrain, application, vehicle usage, load, expected mileage, etc.) added along with OEM, at least 2 regions & application study is part of SOR |
| For OE/Size and extension projects, benchmarking of product performance is not covered.   | To have a competitive performance in the market, we are analysing/capturing the benchmarking product performance for size extension and OEM-specific projects                                      |

#### 5a.3 Maintain Market Superiority by Proactive Benchmarking - product performance (Strategy 3)

In CEAT, benchmarking against competitors takes place for new products in the development phase, which acts as an input to the Design team to match OE & replacement market requirements to attain superiority. Once the product is released after going through all stringent NPD stages, the product is under surveillance for compliance with



statutory requirements & through claims, where the product’s core value proposition is not checked once the product is released. Also, in the current dynamic market scenario with volatile customer expectations & market

conditions, new competitors are emerging & existing competitors are always evolving to be best in class. Due to this, market superiority is lost for regularised products over the course of time. In FY17, a process was initiated to carry out benchmarking, with the objective as explained in fig: 1.

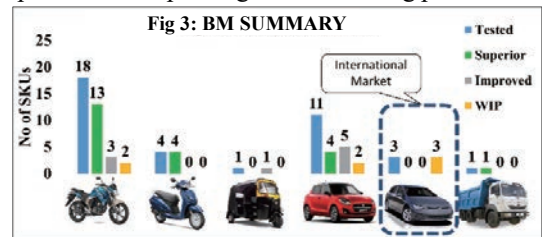
In this process, the Product is selected considering the top-selling product from each category, where evaluation takes place considering the Key Value proposition of the selected product against the nearest competitor.

**QA Benchmarking Example:** 3.00-18 Gripp is one of our premium sizes in the Motorcycle TT category, contributing high volume share in the Superior Grip & Safety platform, The same Platform is highly promoted in the market through various forms of advertising. The size was first selected for QA benchmarking in FY-17 against the nearest market competitor to check product performance in providing Grip & safety to the customer. The end consumer need is translated to testing requirement, and the procedure is finalised to carry out the comparison and benefit from it.

To achieve an increase in international business market share, the benchmarking scope has been further extended to CEAT Gripp & Gripp XL was tested against the same competitor where CEAT was inferior in braking distance in wet conditions. It was observed that not only CEAT even the competitor was improving in their braking performance

as per fig 3. PCUV International Business market (Europe). Inferior SKUs in this activity are taken up for re-development. In FY21, we shifted focus to tubes. Unlike tyres, tubes have an unstated need for customers and yet are functionally important for tyres in service. Hence tube Benchmarking was started for complete customer satisfaction.

Based on Customer stated (claims) & unstated requirements, input controls are taken to design or modify new tests and implemented in the evaluation of top selling tube SKUs against a current competitor. The output of this evaluation is taken for product improvement at the design or process stage.



#### 5a.4 Improve process and product consistency through Cut tyre rating

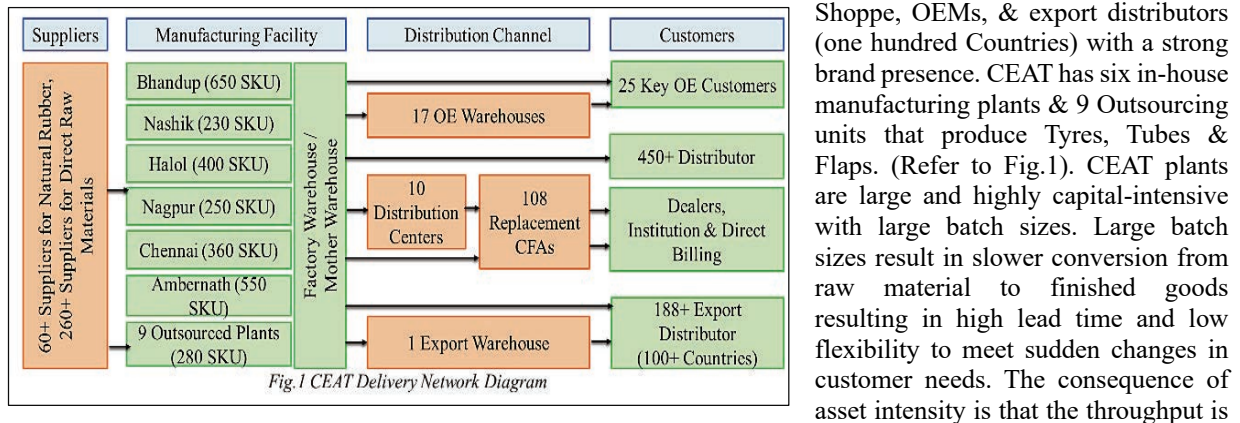
Consistency in tyre quality is determined primarily by 1. Tyre layout compliance 2. Compound Consistency & 3. Tyre Uniformity. Even after reduction across categories, we were still getting sporadic concerns of premature claims (PMC) in the market. Through failed tyre analysis, it was found that multiple parameter variations impacted PMC. The Quality matrix (Product Process matrix) was studied for deriving the correlation & critical tyre layout parameters were identified. Tyre layout compliance is checked during cut tyre section analysis for each critical parameter and categorized from A(best) to D(worst). The rating of the tyre is determined by the lowest rating among all the parameters. Management & Technical causes have been identified through QIPs & SPARSH circle.

**Impact of countermeasure:** Improvement in 22 Ply & 7 Tread Gauge parameters resulted in A-CTR improvement increased by 42% between the years from FY19 to FY23. PMC has reduced by 86% between the years from FY17 to FY23 significantly.

## Chapter 5b Establishing Lean Thinking

### 5b.1 Overview

CEAT has a complex & elongated delivery network with its customer base divided into Distributors, Dealers, CEAT



Shoppe, OEMs, & export distributors (one hundred Countries) with a strong brand presence. CEAT has six in-house manufacturing plants & 9 Outsourcing units that produce Tyres, Tubes & Flaps. (Refer to Fig.1). CEAT plants are large and highly capital-intensive with large batch sizes. Large batch sizes result in slower conversion from raw material to finished goods resulting in high lead time and low flexibility to meet sudden changes in customer needs. The consequence of asset intensity is that the throughput is constrained by equipment & hence our Manufacturing Plants run as a continuous process (24x7); adding extra shifts or workforce to debottleneck was not an option. The major difference between assembly plants and process industry plants is that the flow patterns and flow dynamics are quite different. The predominant flow characteristic in a typical Automobile assembly plant is the convergence of part types (A-Type: High Raw materials SKUs to Less Final Product), while CEAT plants are divergence of product type (V-Type: Few Raw Materials to High Final Product KUs). In CEAT, the process starts with very few raw materials, which get mixed, extruded, and sheets then further processed to create a large final product variety. Through Value Stream Mapping we have improved equipment performance & reduced waste throughout the supply chain.

### 5b.2 Improve OTIF (On Time in Full)

In the Replacement Business, though the availability of Tyres improved in various categories was there, but it was an issue at the Dealers' end. Stock-Out monitored at CFA which was not giving actual demand at dealers' end hence not the right metric to show delivery performance. OTIF (On Time in Full) is a key delivery KPI which captures the unconstrained demand of the customer. This KPI shows customer satisfaction for delivery. If all the stock is available at the CFA when the dealer places an order, Stock OTIF is one otherwise it is Zero. Overall OTIF was below 72% in FY 20 & we focused to improve it through product category-wise data analysis and an action plan was prepared. E.g., in the PCR category, OTIF was 56% in FY20 where major causes were an Ineffective Distribution system, Lower Production Capacities of PCR w.r.t increasing demands, & manual order capturing at CFA.

To improve the effectiveness of the distribution system, automation for tracking of stock and efficient planning improved in the primary distribution system (Plant to DC). In the secondary distribution (DC to CFA), Norms adherence improved through dispatch compliance of the ESP (Enterprise Supply Planning) system. In the Tertiary distribution system (CFA to Dealer), started same-day delivery for local dealers with 96% compliance.

Due to capacity constraints in PCR tyres, we were not able to deliver desired SKUs, through capacity improvement in Halol Plant and faster ramp-up in Chennai Plant, we were able to deliver desired SKUs resulting in improving the OTIF.

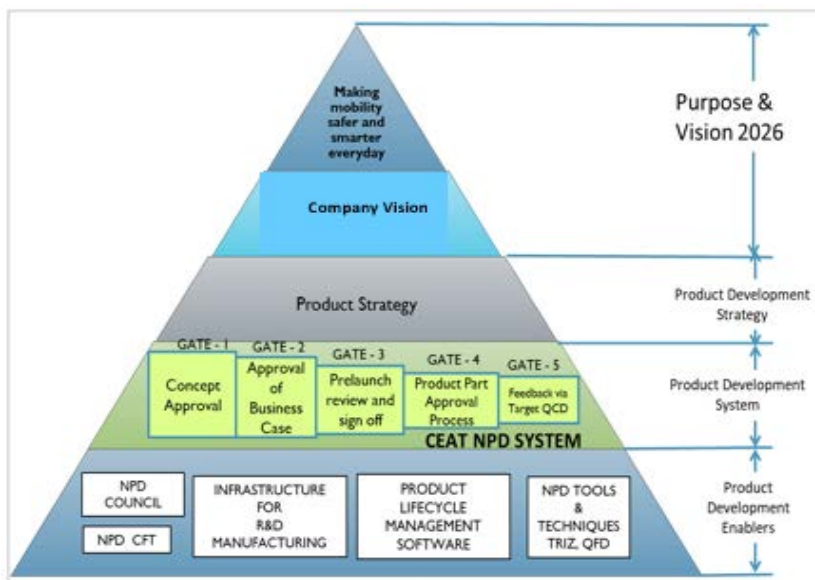
On the ordering system, which was capturing orders from customers manually, we developed a web-based portal and Dealer aid application to enable them to place their unconstrained orders. All CEAT dealers migrated to this platform. With all the above actions we were able to improve the PCR category OTIF increased by 32% in FY 23 from FY20.

**Effect:** Similar actions across all other categories have helped to improve overall OTIF by 28% from FY20 to FY23.

## 5c. New Product Development

### 5c.1 Overview

CEAT aspires to become a leading tyre manufacturer with a global presence in major markets and gain market share in the domestic market across product categories as per Vision FY22-2026. During the Deming prize, CEAT was in catching up phase with competition in major product categories. CEAT’s product had to be ‘innovative’ for breakthrough products and differentiated for existing platforms to drive a strong image and premium pricing. Today, CEAT is the 1<sup>st</sup> tyre company to offer EV tyre range for TBR, Scooter and Passenger cars and 1<sup>st</sup> tyre company to commercialize puncture safe 2-wheeler tyres.



Post-Deming prize, company has decided to focus on entering new international markets with suitable product range and expand the presence in existing international markets.

CEAT has a 5- Stage Gate New product development (NPD) process managed by a cross-functional team (NPD CFT) involving Marketing, R&D, Supply-chain, Operations, Quality Assurance, Technology and Purchase, which is governed by NPD council led by Heads of Marketing and R&D. This council facilitates the implementation of the strategic goals set by the organisation on new product development through monthly progress reviews and annual roadmap reviews in which continuous improvements required in the NPD systems are discussed and actions are taken. CEAT has focussed on Structured Customer in sighting process to capture customer requirements with dedicated vertical. Linkage of Vision to NPD strategy, system and enablers are explained in Fig1. The following improvements were done to improve the NPD process:

| Year                     | FY18   | FY19  | FY20  | FY21  | FY22   | FY23                             |
|--------------------------|--|---|---|---|--|----------------------------------|
| Key areas of improvement | Skill upgradation of CFT on Project management | <ul style="list-style-type: none"> <li>Pilot plant for faster prototype</li> <li>Long term network planning to improve collaboration with dealers &amp; agents</li> </ul> | NPD steps optimization & Software upgradation for project management to improve high NPD cycle time | Introduce breakthrough roadmap for better breakthrough product pipeline | Integrated Roadmap review of Product, Technology & manufacturing readiness | Training & pilot projects on QFD |

### 5c.2 Development of TBR Electric Bus Tyre

Global drive for sustainability stimulates the electrification of vehicles as a key enabler to India’s vision to achieve net Zero CO2 emission steered by 2070 and electric bus in commercial segment is expected to grow by 48.8 % between 2021 to 2025 which CEAT has adopted in its enablers of sustainability. Electric vehicle differs in architecture & designs from that of internal combustion. EV tyre development initiated along with inputs from experts and OEMs from India and abroad, patent literature study and brainstorming with Cross Functional Learning approach were conducted for mapping the relation matrix between tyre and vehicle performance requirements. Key requirements for EV tyres were identified as low rolling resistance, resistance to withstand high torque of the motors, low noise & aesthetic appeal. The technologies of Low Noise, High Mileage and Low Rolling resistance was developed and extensively validated and optimised using series of Simulation Routines. Noise levels were optimized with advance FEA techniques which was developed for truck during this development. High tyre life is achieved with help of advance simulation technique to optimize tread pattern tangential stiffness. The tyre appearance was designed using semantic technique to connect with end users. Low RR & High Tyre Life tyre help to improve sustainability and reduce carbon footprint. All the simulated data are validated at international proving grounds and EV Bus fleets in India Key tangible benefit of the project is the first attempt approvals & sales from key OEMs (Olectra, JBM Auto, Foton PMI & Tata Motors). With electric vehicles being adopted first by government, pricing of the product was crucial, and an approach of a benchmark margin was taken for the same.

**5d.1 Overview**

Sustainability means meeting our current needs without compromising the ability of future generations to meet their own needs. Tyre Manufacturing is typically high energy intensive industry; Thermal and Electricity are main energy sources and energy cost is a significant part of total Manufacturing Costs. In brief, environment and cost impact - both go hand in hand as priorities for improvements towards Sustainability and profitability. So primary focus at CEAT has been to understand and act towards environmental aspects of Sustainability and make a meaningful impact with our plans and actions.

**5d.2 Status at the time of winning the Deming Prize**

Sustainability was practised as a process but not holistically connected. As we moved ahead in our purpose and new vision, it was evident that we needed to accept and adapt Sustainability as a way of doing our normal business. Emphasizing environment as a part of our daily activity plays a very significant role in our Sustainability vision. The need for a structured manner approach and a roadmap for execution was clearly recognized.

**5d.3 Development of Sustainability structure, system, and capability**

ESG vision was developed through a series of workshops with a focused group team which included top management, the operations team, youth members of future leaders, board members and other external facilitators. Green House Gas (GHG) emission is the primary discharge for any tyre industry and carbon dioxide constitutes 76% of total greenhouse gases. Basis this, the vision formulated vision statement in Dec, 2020 -

**Our Sustainability vision statement: Reduce carbon footprint by 50% by 2030**

- Scope 1: Direct emissions occurring from sources that are owned /controlled by the organization
- Scope 2: Indirect emissions generated as a result of purchased electricity/steam
- Scope 3: Indirect emissions occurring because of the activities of the company but from sources not owned by them.

Initial measurements to calculate corporate carbon footprint and Product carbon footprint were attempted in 2018, through a customized footprint calculator. With the launch of formal vision, Sustainability was part of FY22 top priority and Sustainability Roadmap Development was declared as a policy goal at MD's level.

**• Vision and Roadmap:**

Sustainability Vision and 3 years concrete roadmap has been formed. The key project tracks have been identified through tyre and cross-industry benchmarking, followed by key material topics relevant to tyre industry. Identification of specific projects in Design, Manufacturing, Supply Chain with KPIs and targets for FY24 has been done.

**5d.4 Specific Water Consumption Reduction at Chennai Plant**

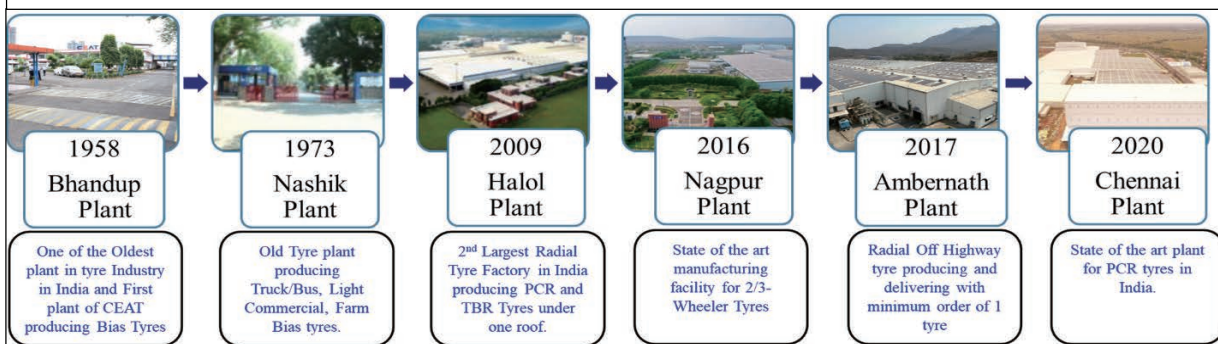
At the time of ramp up of Chennai plant in FY 20, company level water specific consumption was low but, Chennai's specific water consumption was high. In Chennai Plant, industry water is used in three areas 1) Domestic use (10%), in Canteen & washroom & 2) Industrial use (85%) in process and 3) Gardening (5%). Water conservation was identified as one of the key areas to work over from there and a detailed analysis done on area wise water consumption to identify actionable. There are typically two source of water 1) Ground water (Bore well) 2) Tertiary Treated RO water from government. So, two projects identified: 1) Reduce Overall specific water consumption. 2) Reduce fresh withdrawal of ground water.

Specific water consumption at Chennai plant has been reduced by 83% since FY'20. Borewell water usage reduced to 12% and Tertiary Treated water usage increased to 88%.

6.1 Overview

CEAT has its manufacturing plants at six locations in India (Bhandup, Nashik, Halol, Nagpur, Chennai and Ambernath). There are nine outsourcing partners associated with CEAT that supplies Tyres, Tubes, and Flaps. Since winning the Deming Prize, we have focused on strengthening our key enablers in manufacturing: First to Digitalization, Sustainability, Lean Thinking and the QBM way of working. We continue to work on our long-term thinking through manufacturing roadmaps and collaborative working through a council-based approach and improve delivery to our customers. Cross-learning and practices are being shared monthly & eventually deployed through the Manufacturing Leadership Team (MLT) meetings. The quality of our problem-solving has continuously improved every year across all plants. “Caring” has become the foundation of our manufacturing with an endeavor towards enhancing happiness of our employees. As a result, we have achieved 100% participation in improvements. As a result, CEAT became the 1st tyre company globally to become part of the **Global Lighthouse Network** awarded by the World Economic Forum for the digital transformation. Also, CEAT won “**Most Preferred Workplaces in Manufacturing 2022-23**” by Team Marksmen. CEAT was also ranked in **Top 25 manufacturing companies in India by Great place to work in 2022.**

Fig1: Manufacturing Footprint



6.2 Manufacturing Vision and Role

The manufacturing role is to “**Ensure manufacturing and delivery of Tyres as per customer requirements competitively through safe, sustainable, and smart operations with highly empowered & engaged workforce**”. With the formation of CEAT vision of FY 22-26(revised) we developed a new manufacturing vision, philosophy and strategies as shown below (Fig2):

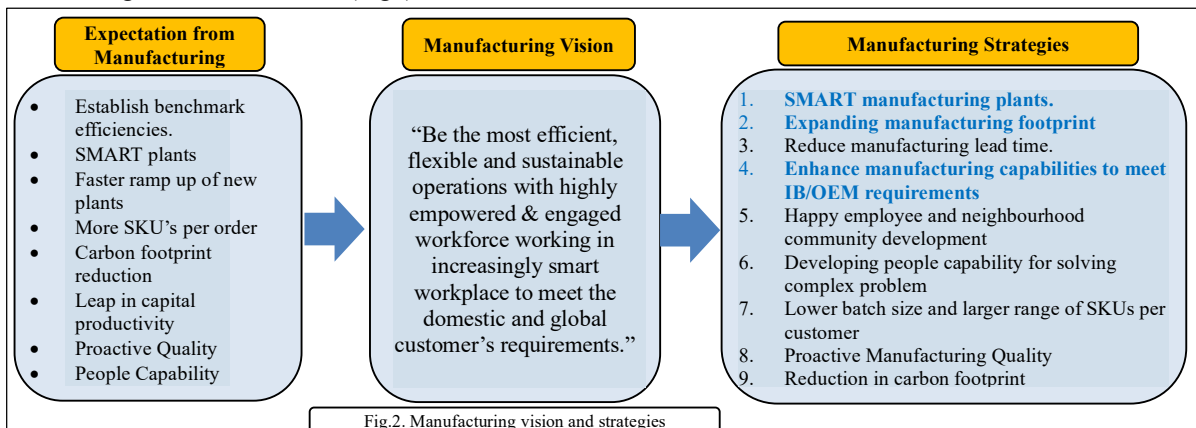
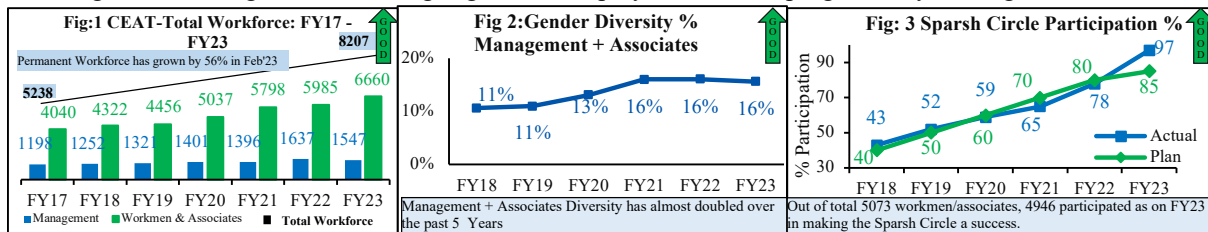


Fig.2. Manufacturing vision and strategies

## Chapter 7 People Development and Satisfaction

### 7.1 Overview

India is one of the most diverse countries in the world in terms of geography, language, religion and culture. CEAT is a good example of this diversity, comprising employees from different states, speaking different languages and following different religions. The average age of the employees has been progressively coming down with women



working in all 3 shifts. We expanded our diversity footprint by inducting 29 specially-abled colleagues. We are one of the first tyre company in India to induct 7 transgender associates. CEAT is a people-focused organization continuously striving to improve employee’s Happiness, to enable achievement of envisioned Business Growth & Strategy To assimilate new hires in CEAT Way of Working, our induction program “Parichay” improved through successive PDCAs based on the inputs received from new joinees. Our openness through authentic 2-way communication channels, including Quarterly MD Connect, Monthly Operational Reviews, Monthly Sales Call, Leadership Open Houses & “Cheers with Anant”, continues to improve. Along with our focus on building digital capability, internal job placement has improved by 31% from FY17, with 80% of employees rotated in 4 years. We are proud that 3 members were promoted to Executive Committee. CEAT is now ranked at 27<sup>th</sup> in the Top 100 Companies in India, with our overall engagement score reaching 86% in FY22. Employee insighting conversations helped us to gain deeper understanding and arrive at actionable points. Methodical execution of the actions has resulted into improved engagement score. The level of trust with our workmen in our legacy plants is validated by consistently high happiness scores between 95% - 98%+ from FY18 to FY23. Our total employee involvement increased from 92% (FY17) to 100% (FY22). The workmen and associates participation in SPARSH Circles enhanced to 90% plus levels (as shown in Fig 3). We are focusing on building digital capability across the organisation. CEAT was the 1<sup>st</sup> tyre company in the world awarded the prestigious Lighthouse certification by the World Economic Forum in January 2023. These business & functional achievements are a testament to the quantum improvement in the capability & calibre of our people & processes.

### 7.2 CEAT Values - PACE 😊 ‘Our Way of Life’

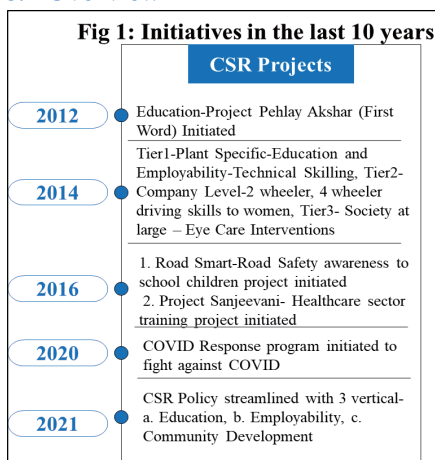
To achieve our vision, it was imperative to strengthen an open and collaborative working environment. Also, at CEAT, it is our continuous endeavour to build a culture of caring, customer first and inclusion. During the formation of the vision FY 22-25, we have articulated our values. We conducted multiple focus group discussions with employees to assess the need for culture change. Accordingly, we replaced our old values CAIRO with “PACE 😊”, which we believe will help us achieve our Vision FY’22-26. We have retained our core values, like Customer Obsession and Caring, and added aspirational values, like Agility & Empowerment. All CEATizens truly demonstrate the 5 values by Playing to win, being Agile in the face of uncertainty, being absolutely obsessed in meeting customer requirements, empowering our people to make key decisions while never ceasing to care for them. We have aligned our reward system “CHAMP” with these values. The flat structure at CEAT (6 levels between workmen to MD) and business partnership matrix reporting helped us to ingrain values in the culture. This unique culture has led to 52 employees re-joining CEAT over the last 5 years.

Institutionalizing Action plans for the new value – set included:

1. Awareness - Values in Action Week touching 5020+ participants (management) & 3500+ (associates/workmen), 13 business leaders’ sessions on the meaning & importance, creating a game to validate understanding of values & a quarterly values newsletter.
2. To validate the demonstration of PACE 😊 values ecosystem established for Agile project teams focus on identifying critical business problems to be solved in a short time. We identified eight primary projects where teams achieved benefits totalling 510 million vs a target of 490 million in FY21. We now have 58 more Agile teams with a target of 50 working on similar projects. Empowerment ideas eliminate red tape by identifying opportunities for decentralizing decision-making. Currently, 123 empowerment ideas have been identified to a target of 150, and their validation & implementation is underway. We will continue to build on these initiatives until we have achieved 100% demonstration of PACE 😊 values.



8.1 Overview



At CEAT, it is believed that Corporate Social Responsibility is an integral part of our Company’s ethos and one of our core business tenets and has always played an active role in Community Engagement. CEAT drives its CSR initiatives through RPG Foundation, registered under the Bombay Public Trust Act 1950. As a responsible business corporation, the Company takes pride in activities to address key societal needs, both in the communities, it operates in & society at large. The CSR activities are aligned with Sustainable Development Goals (SDGs) established by the United Nations. After CSR Act 2013 came into effect, CEAT formulated a CSR committee consisting of two Directors & one Independent Director to monitor the social initiatives undertaken by the company by successfully utilizing its 2% mandate as per law by creating maximum impact in the communities (Fig.1). **CEAT was recognised among the top 7 in Institute of Company Secretary of India (ICSI) CSR Excellence Award in 2023.**

8.2 Purpose of CSR

CEAT’s purpose is to support communities to lead purposeful, happy & dignified lives, thereby driving **“Holistic Empowerment”** and overall well-being of the community. Our vision is to bring about long-term sustainable change in the less privileged by implementing initiatives that have a clear societal impact and contribute to the nation's growth and development.

8.3 CSR Pillars

CEAT has initiated a need assessment survey to further streamline its projects and CSR policy was put in place 3 major thematic areas have been identified which have been developed as pillars of CSR i.e., Education, Employability and Community Development as explained in Table 1.

| Pillar                                       | Programs   | Program Brief  | Bhandup | Nashik | Halol | Nagpur | Ambarnath | Chennai | Head Office |
|--|--|--|---------|--------|-------|--------|-----------|---------|-------------|
| Education-Project Pehlay Akshar (First Word) | Pehlay Akshar- Student Training                    | To Train students Functional English Skills                              | √       |        |       |        |           |         | √           |
|  | Pehlay Akshar- Teacher Training                    | Enabling Teachers drive better learning outcomes                         | √       |        |       |        |           |         | √           |
| Employability-Project Swayam (Self)          | Swayam Health                                      | Enhancing employability for women and youth from less privileged section | √       | √      | √     | √      | √         | √       |             |
|  | Swayam Drive                                       |  | √       | √      | √     | √      | √         | √       |             |
|  | Swayam Digital                                     |  | √       | √      | √     | √      | √         | √       |             |
|  | Swayam Construction                                |  | √       | √      | √     | √      | √         | √       |             |
|  | Swayam Skills                                      |  | √       | √      | √     | √      | √         | √       |             |
| Community Development                        | Project Netranjali (Eye Health Care Interventions) | To provide comprehensive vision/eye care to prevent avoidable blindness  | √       | √      | √     | √      | √         | √       |             |
|  | Balvikas (Child Development)                       | Holistic Development of Children   | √       |        |       |        |           |         |             |
|  | COVID Response                                     | Provide support to Government/ local bodies to fight against COVID       | √       | √      | √     | √      | √         | √       | √           |

**Education-** Nearly 97.2% of the school-going age population were enrolled in school in 2018. Yet the education sector is facing a crisis, and learning outcomes remain very poor. Over 70% of students in Class 3 lack basic reading and mathematics skills, which form the basis of all future learning. Also, with limited access to quality training, teachers often lack the skills to teach effectively and have limited subject matter knowledge. To fill this gap, CEAT’s Education pillar, called as **‘Pehlay Akshar’** (First Word), provides for interventions to improve learning abilities in children and have access to holistic education, supporting teachers to teach better, thereby supporting schools to develop high-quality learning spaces. For students, the programme works to impart functional English and other 21st century skills to empower every child with a learning mindset. The Pehlay Akshar Teachers’ Training programme - “Teach the Trainer”, aims at training teachers in modern and Community Engagement innovative pedagogies and behavioural techniques. An impact Assessment survey of teacher training program was conducted with third party. The findings of the report are at Table 2.

| Parameter  | %   |
|--|-----|
| Teachers perceive improvement in their teaching ability  | 91% |
| Teachers believe that the training given to them improved their English teaching ability                         | 87% |
| Teachers aspired to improve their English skills further and were interested in improving grammar and vocabulary | 85% |



## Chapter 9 Overall Achievements and Effects & Future Plan

Guided by its purpose, CEAT has continued its focus on delivering highest quality product experience to its customers and gaining market leadership in focused categories to achieve its vision. Since winning the Deming Prize, CEAT has become fundamentally much stronger in all aspects of its operations in spite of a volatile external environment. Our QBM approach has helped us become adaptive to the new environment as well as agile to respond effectively to challenges. While we could not fully achieve our vision FY'17-21, we made significant improvements in all our strategic keystones and enablers, which provides us a strong impetus to aim for our new Vision FY'22-26.

CEAT's excellence in Total Quality Management is evident through its customer-centric initiatives and a holistic approach that aligns the entire organization with customer and societal satisfaction. This commitment results in robust process efficiency and analytical capabilities, fostering innovation and a culture of trust and openness. Furthermore, CEAT's people-centric philosophy prioritizes employee well-being. These efforts have established a purpose-driven organization, propelling CEAT to a leadership position in market share and empowering the development of breakthrough products and radical technologies. The relentless dedication to customer engagement, coupled with innovative steps like building its own machines, enhances efficiency. Digitalization across functions ensures future readiness, international expansion, reflecting CEAT's dynamic and for long-term thinking.

### 9.1 Overall Effects

#### 9.1.1 Brand Power

CEAT has improved its capability to effectively communicate our value proposition to customers across categories. Our sales teams are synchronized across geographies to ensure consistent and credible messaging for each product. **CEAT ranked 1 for three consecutive years in the Most Trusted Brand report by TRA in the Auto Ancillary category.**

Our QBM journey has helped us deliver outstanding customer experience and improve our perception in the market.

| Year | Ranking for CEAT in Auto Ancillary category | Ranking for CEAT in Tyre category |
|------|---|-----------------------------------|
| 2022 | 1   | 1                                 |
| 2020 | 1   | 1                                 |
| 2019 | 1   | 1                                 |
| 2018 | 2   | 2                                 |
| 2017 | 5   | 3                                 |

\*TRA (formerly Trust Research Advisory) is an independent agency that has been publishing 'The Brand Trust Report' for over a decade

#### 9.1.2 Network Power

We have upgraded our capability to reach customers with our products and services by establishing India's largest tyre distribution channel. International business has grown significantly through region specific strategies, especially in Brazil and Europe.

- 2W-Sub Dealer Expansion is increased by 119% between the years from FY18 to FY23.
- PCUV-Special Channel Expansion (Shoppes & SIS) is increased by 74% between the years from FY18 to FY23.
- TBR – No. of fleet additions has been substantial increase by 2100% between the years FY18 to FY23.
- Town Coverage is increased by 51% between the years from FY19 to FY23.
- IB as % of total CEAT revenue is increased by 6% between the years from FY18 to FY23.

#### 9.1.3 Product Power

We developed our R&D and manufacturing capabilities to ensure our products are built in-house to adhere to stringent standards. This also enables us to meet the specific OE requirements and produce tyres compatible with the most recent models in the market.

**a. Significantly improved product range in focussed categories**

**b. Launched several breakthrough products refer table 2**

Breakthrough products were conceptualized by understanding customer needs and they are well accepted by the customers.

|      |  |
|------|--|
| FY18 | Milaze X3 (PCUV) – 100,000 km tyre                             |
| FY20 | Coloured Sidewall (2W) – Holi Festival (Celebration of colour) |
| FY22 | Puncture Safe (2W) – Puncture proof tyre                       |
| FY22 | Colour Tread Wear Indicator (PCR) – Indicates tyre wear        |
| FY23 | EnergyDrive (2W, PCUV, TBR) – EV tyres                         |

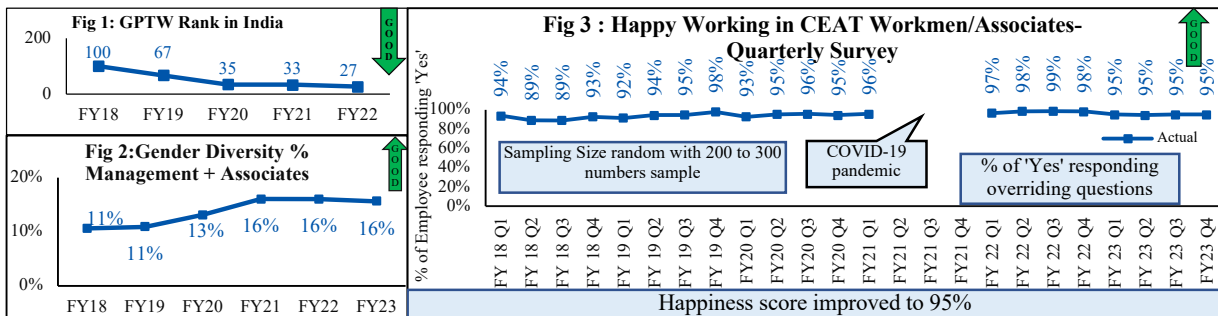
#### 9.1.4 Social Power

We live our core values of empowerment and caring to upskill our employees and enable them to contribute their best to company goals as well as the community they are a part of.



CEAT Ltd. Mumbai

**a. Powered by happy, engaged, and diverse employees.**



**b. Making a difference to the community**

**Table 3: Holistic development of communities**

| Education  | Vocational Skills   | COVID Response  |
|--|---|---|
| <ul style="list-style-type: none"> <li>• Provided English teaching as a second language in schools in Maharashtra State.</li> <li>• Over 7,000 school children trained.</li> <li>• Over 5,000 teachers trained.</li> </ul> | <ul style="list-style-type: none"> <li>• Train women from less privileged backgrounds with skills to enable employment.</li> <li>• Over 15,000 candidates trained under various vocational courses.</li> <li>• Over 12,000 candidates received employment.</li> </ul> | <ul style="list-style-type: none"> <li>• 32 Fever Clinics set up across Maharashtra with support from National Health Mission</li> <li>• More than 370,000 meals distributed.</li> <li>• 75 COVID testing booths donated to hospital.</li> <li>• Community vaccination centre set up at Welfare Centre, Bhandup</li> <li>• Dry ration kits donated benefitting over 2000 households.</li> </ul> |

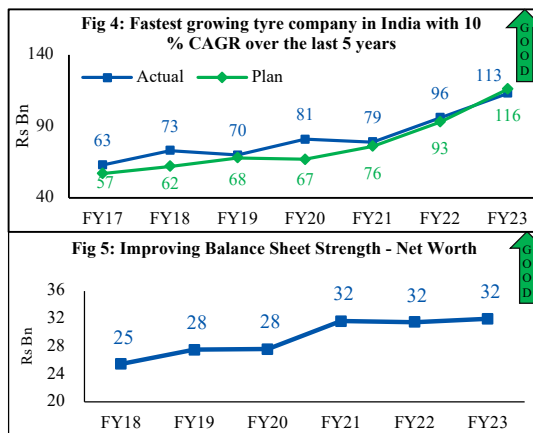
**9.1.5 Financial Power**

We have enhanced financial capabilities to fund projects for growth, improve profitability (beyond survival) and maintain high credit ratings. This has made us one of the fastest-growing tyre companies in India.

**9.2 Future Plans**

Our vision FY'22-26 sets us an ambitious target of achieving a vision by FY26, necessitating consistent annual growth over the next three years. While we have our building blocks in place for achieving vision FY'22-26, we face the following challenges:

1. Increasing volatility in demand due to external shocks – the inter-connected world economy is exposed to multiple threats posed by geo-political crises, natural calamities, and communicable diseases, amongst others
  2. Impact of technology disruptions in mobility and other areas of operation - the way of working is evolving fast, with technology being used to automate/digitize all aspects of operations.
  3. Strengthening organization capabilities to make ourselves more agile and flexible.
- CEAT has taken several initiatives to achieve its vision FY'22-26 and prepare itself for the future in its continuous journey of customer obsession.



**Table 4: CEAT's credit rating has improved consistently over the past 10 years**

| FY | FY 13 | BBB |
|----|-------|-----|
| FY | FY 14 | A   |
| FY | FY 15 | A+  |
| FY | FY 16 | AA- |
| FY | FY 17 | AA- |
| FY | FY 18 | AA  |
| FY | FY 19 | AA  |
| FY | FY 20 | AA  |
| FY | FY 21 | AA  |
| FY | FY 22 | AA  |
| FY | FY 23 | AA  |

| Alphabet | Sr no | Abbreviation | Full Form   | Description / Operational Definition   |
|----------|-------|--------------|---|--|
|          | 1     | 2W           | 2-wheeler   | Vehicles running on 2 wheels - Motorcycle, Scooters  |
|          | 2     | 3D           | 3 Dimensional   | It refers to the three spatial dimensions of width, height, and depth.   |
|          | 3     | 4-Wheeler    | 4-wheeler   | Vehicles running on 4 wheels   |
| A        | 4     | AD           | Anno Domini   | AD counts years from the start of this epoch   |
|          | 5     | AI           | Artificial Intelligence                                       | Artificial Intelligence  |
|          | 6     | AL           | Ashok Leyland   | India's second largest commercial vehicle manufacturer   |
|          | 7     | ANQ          | Asian Network for Quality                                     | ANQ facilitates new blood flowing into the quality evolution of each organization from other Asian member bodies, contributing to a unique quality evolution in each organization. |
|          | 8     | ATMA         | Automotive Tyre Manufacturers Association                     | Automotive Tyre Manufacturers Association  |
| B        | 9     | BD           | Bangladesh  |  |
|          | 10    | BM           | Benchmarking  | Benchmarking   |
|          | 11    | Bn           | Billion   | Billion  |
|          | 12    | BOM          | Bill of Material  | Material required for production   |
| C        | 13    | CAGR         | Compounded Annual Growth Rate                                 | Measures the return on an investment over a certain period of time.  |
|          | 14    | CAIRO        | Challenger-Aspiration Led-Integrity-Result Obsession-Openness | CEAT's Organization Values   |
|          | 15    | CC           | Cubic Capacity  |  |
|          | 16    | CCQC         | Conventional chapter on Quality concepts                      | Quality circle competition held by local convention  |
|          | 17    | CEAT         | Cavi Elettrici e Affini Torino                                | CEAT Limited (formerly, Cavi Elettrici eAffini Torino) is an Indian multinational tyre manufacturing company   |
|          | 18    | CFA          | Carrying and Forwarding Agent                                 | Third party business partners used to carry and bill stocks to dealers/distributors  |
|          | 19    | CFBP         | Council for Fair Business Practices                           | serves as bridge between the Consumers and Manufacturers.  |
|          | 20    | CFO          | Chief Financial Officer                                       |  |
|          | 21    | CFS          | CEAT Fleet Solutions  |  |
|          | 22    | CFT          | Cross Functional Team   | A group involving participants from various functions  |

| Alphabet | Sr no | Abbreviation | Full Form  | Description / Operational Definition  |
|----------|-------|--------------|--|---|
|          | 23    | CLIP         | Committed Line Itemized Performance                            | A performance metric used to measure production adherence at plants. If the warehousing for a SKU falls between 90% to 110% of the plan, CLIP is 1, else 0.                         |
|          | 24    | CMS          | Ceat Management System   | Online CEAT portal acting as repository and revision management of all documentation and standards  |
|          | 25    | CN           | Credit Note  | Credit Note   |
|          | 26    | CO2          | Carbon Dioxide   |   |
|          | 27    | COO          | Chief Operating Officer  |   |
|          | 28    | CoP          | Cost of Poor Quality   |   |
|          | 29    | CS           | CEAT Shoppe  | Exclusive channel of CEAT for selling PCR/UVR tyres   |
|          | 30    | CSD          | Customer service department                                    | Service department responsible for addressing customer complaints in the field  |
|          | 31    | CSR          | Corporate Social responsibility                                | Corporate social responsibility (CSR) is a business approach that contributes to sustainable development by delivering economic, social and environmental benefits for the society. |
|          | 32    | CSTL         | CEAT Specialty Tyre Limited                                    |   |
|          | 33    | CV           | Curriculum vitae   |   |
|          | 34    | CX           | Customer experience  |   |
|          |       |              |  |   |
| <b>D</b> | 35    | DC           | Distribution Centre  | Central warehouse stocked with products (goods) to be redistributed to different CFAs   |
|          | 36    | DC           | Distributor Channel  | Supply Chain Network  |
|          | 37    | DFMEA        |  | Design Failure Mode Effect & Analysis   |
|          | 38    | DM / DWM     | Daily Work Management  | The system that provides the ability to manage departments, functions, and processes, wherein processes are defined, standardized, controlled, and improved by the process owners.  |
|          | 39    | DMS          | Distributor Management System                                  | Module for Distributors   |
|          | 40    | DOE          | Design of Experiments  | It is a systematic method to determine the relationship between factors affecting a process and the output of that process  |
|          | 41    | DVP          | Design Verification parameter                                  |   |
|          |       |              |  |   |
| <b>E</b> | 42    | EBITDA       | Earnings Before Interest, Taxes, Depreciation and Amortization | EBITDA = Revenue - Expenses (excluding taxes, interest, depreciation and amortization)  |

| Alphabet | Sr no | Abbreviation | Full Form                             | Description / Operational Definition  |
|----------|-------|--------------|---------------------------------------|---|
|          | 43    | ERP          | Enterprise Resource planning          | System for ERP system for all functions which has all modules like Finance, HR, Plant Maintenance, Materials Management, Quality Management, Sales  |
|          | 44    | ESG          | Environmental, Social, and Governance |   |
|          | 45    | ESP          | Enterprise Services Planning          |   |
|          | 46    | EST          | Estimated                             |   |
|          | 47    | EU           | European Union                        | The European Union (EU) is a politico-economic union of 28 member states that are located primarily in Europe   |
|          | 48    | EV           | Electric vehicle                      |   |
|          | 49    | ExCom        | Executive Committee                   |   |
| F        | 50    | FE           | Fuel Efficiency                       |   |
|          | 51    | FEA          | Finite Element Analysis               |   |
|          | 52    | FOE          | Fleet Operational Efficiency          |   |
|          | 53    | FSS          | Field Service Specialist              | Specialised role for selling Truck Bus Radials through consultative selling   |
|          | 54    | FY           | Fiscal year                           | Financial Year starting from month of April till March next year  |
| G        | 55    | GDP          | Gross domestic product                |   |
|          | 56    | GHG          | Greenhouse gas                        |   |
|          | 57    | GIS          | Graphical Information System          | It is a computer system for capturing, storing, checking, and displaying data related to positions on Earth's surface   |
|          | 58    | GPS          | Global Positioning Systems            |   |
|          | 59    | GPTW         | Great Places to Work                  | Great Place to Work® Institute is a global research, consulting and training firm that helps organisations identify, create and sustain great workplaces through the development of high-trust workplace cultures |
|          | 60    | GST          | Goods and Service Tax                 | A comprehensive indirect tax on manufacture, sale and consumption of goods and services throughout India.   |
| H        | 61    | HR           | Human Resource                        | An organizational function that deals with people and issues related to people such as compensation. Hiring, performance management & training  |
| I        | 62    | IB           | International Business                |   |

| Alphabet | Sr no | Abbreviation | Full Form                                   | Description / Operational Definition   |
|----------|-------|--------------|---|--|
|          | 63    | ICQC         | International Convention on Quality Control | Quality circle competition events at International level   |
|          | 64    | ICSI         | Institute of Company Secretary of India     | It's a premier national professional body in India under the ownership of Ministry of Corporate Affairs, Government of India with the objective of promoting, regulating and developing the profession of company secretaries in India |
|          | 65    | IFM          | Integrated Fleet Management                 |  |
|          | 66    | INR          | Indian National Rupee                       |  |
|          | 67    | IoT          | Internet of Things                          |  |
|          | 68    | IT           | Information Technology                      |  |
| <b>J</b> | 69    | JBM          | Jay Bharti Maruti Group (OEM)               |  |
|          | 70    | JV           | Joint Ventures                              |  |
| <b>K</b> | 71    | km           | Kilometre                                   |  |
|          | 72    | Kmph         | Kilometre per hour                          |  |
|          | 73    | KPI          | Key Performance Indicators                  | A measurable value that demonstrates how effectively a parameter has been achieved.  |
| <b>L</b> | 74    | LTDP         | Long Term Demand Planning                   | A 5 year process which is used to track and review future demand projections of the industry   |
|          | 75    | LTSP         | Long Term Supply Planning                   | A 3 year process which is used to track and review future CEAT supply projections  |
| <b>M</b> | 76    | M&M          | Mahindra and Mahindra                       | One of the key Indian OEM  |
|          | 77    | MC           | Motorcycle                                  |  |
|          | 78    | MD           | Managing Director                           | Person who controls a business or company  |
|          | 79    | MIQ          | Mahindra Institute of quality               | A well-known statistical institute, located in Nashik, Maharashtra   |
|          | 80    | ML           | Machine Learning                            | A branch of artificial intelligence (AI) and computer science which focuses on the use of data and algorithms to imitate the way that humans learn, gradually improving its accuracy.  |
|          | 81    | MLT          | Manufacturing Leadership Team               |  |
|          | 82    | Mn           | Million                                     |  |
|          | 83    | MOR          | Monthly Operational Review                  | Review process at CEAT   |
|          | 84    | MT           | Metric Ton                                  | A unit of weight equal to 1,000 kilograms  |

| Alphabet | Sr no | Abbreviation | Full Form                                   | Description / Operational Definition   |
|----------|-------|--------------|---|--|
|          | 85    | MT           | Manufacturing Technology                    | Specific function in CEAT. Refer chapter 16 of departmental DTQMP.   |
| N        | 86    | NBFC         | Non-banking financial companies             |  |
|          | 87    | NCQC         | National chapter on Quality concepts        | Quality circle competition events at country level   |
|          | 88    | NPD          | New Product Development                     | The process of bringing a new product or service to market.  |
|          | 89    | NPS          | Net Promoter Score                          |  |
| O        | 90    | OE Size      |   | SKU or tyre size to be Supplied to Original Equipment Manufacturer   |
|          | 91    | OE Yield     |   | A measure of Throughput yield i.e. First time Okay for OEM supply  |
|          | 92    | OEE          | Overall Equipment Effectiveness             | A performance metric compiled from three data sources of the machine (or Process) being measured                                     |
|          | 93    | OEM          | Original Equipment Manufacturer             | Vehicle manufacturers to whom CEAT supplies tyres  |
|          | 94    | OHT          | Off-Highway Tyres                           |  |
|          | 95    | OpCom        | Operations committee                        | Committee chaired by ED Operations and attended by all Functional Heads to review the monthly operational performance of the company |
|          | 96    | OTIF         | On Time In Full                             | A KPI used to measure the delivery efficiency. It measures the % of orders fulfilled on time in full quantity                        |
| P        | 97    | PCR          | Passenger Car Radial                        | Radial tyres for passenger cars  |
|          | 98    | PCUV         | Passenger car, Utility Vehicle Radial       |  |
|          | 99    | PD           | Product development                         | Process to develop or improve a product  |
|          | 100   | PDCA         | Plan Do Check Act                           | Management improvement tool  |
|          | 101   | PFD          | Process Flow Diagram                        | Summary of sequential flow of a process from start to end  |
|          | 102   | PFMEA        | Process Failure Mode Effects Analysis       | A structured analytical tool used to identify and evaluate the potential failure modes of a process                                  |
|          | 103   | PGDQM        | Post Graduate Diploma in Quality Management |  |
|          | 104   | PLM          | Product lifecycle management                | Software to manage product life cycle  |
|          | 105   | PMC          | Premature Claim                             |  |
|          | 106   | POC          | Proof of concepts                           |  |
|          | 107   | PPM          | Parts per Million                           | It is a value that represents the part of a whole number in units of 1/1000000   |
| 108      | PPU   | Pay-Per-Use  |   |  |



| Alphabet | Sr no | Abbreviation  | Full Form                              | Description / Operational Definition  |
|----------|-------|---------------|--|---|
| Q        | 109   | QA            | Quality Assurance                      |   |
|          | 110   | QBM           | Quality Based Management               | It is a quality management adopted by CEAT. A way of implementing TQM Practices   |
|          | 111   | QC            | Quality Control                        |   |
|          | 112   | QCD           | Quality Cost Delivery                  | Categories of KPI   |
|          | 113   | QCDSM         | Quality Cost, Delivery, Safety, Morale | Categories of KPI   |
|          | 114   | QIP           | Quality Improvement Project            | Structured 7 step problem solving methodology using 7 QC Tools  |
| R        | 115   | R & D         | Research and Development               | Research and Development Function   |
|          | 116   | R&R           | Reward and Recognition                 |   |
|          | 117   | RO            | Regional Office                        | Local sales and service office  |
|          | 118   | ROI           | Return on Investment                   | Return on Investment  |
|          | 119   | RPG           | Ram Prasad Goenka                      | Name of the RPG Group Founder   |
|          | 120   | RR            | Rolling Resistance                     |   |
|          | 121   | Rs            | Rupee                                  | Indian Currency (1 Rs ~ 1.8 JPY)  |
| S        | 122   | SDG           | Sustainable Development Goals          |   |
|          | 123   | SEA           | Southeast Asia                         |   |
|          | 124   | SIS           | Shop In Shop                           | Semi exclusive outlet with exclusive branding space for CEAT and additional discount for selling prefixed quantity of PCR/UVR tyres of CEAT |
|          | 125   | SKU           | Stock Keeping Unit                     | distinct type of item for sale  |
|          | 126   | SL            | Sri Lanka                              |   |
|          | 127   | SOB           | Share of Business                      | CEAT's market share against total requirement of OEM  |
|          | 128   | SOR           | Statement of requirements              |   |
|          | 129   | SPARSH CIRCLE |  | A name given to CEAT Quality Circle   |
| T        | 130   | TBB           | Truck Bus Bias                         | Bias tyres for Trucks and bus   |
|          | 131   | TBM           | Time Based Maintenance                 | Time based maintenance is planned maintenance, as it must be scheduled in advance   |
|          | 132   | TBM           | Tyre Building Machine                  |   |
|          | 133   | TBR           | Truck Bus Radials                      | Radial tyres used in Trucks and buses   |
|          | 134   | TML           | Tata Motors Limited                    | OEM. India's largest commercial vehicle manufacturer  |
|          | 135   | TPD           | Tons per day                           | Tonnage produced per day  |
|          | 136   | TPM           | Tons per month                         | Unit used to measure Production Output in Tonnage   |

| Alphabet | Sr no | Abbreviation | Full Form                           | Description / Operational Definition   |
|----------|-------|--------------|-------------------------------------|--|
|          | 137   | TPM          | Total Predictive Maintenance        | A holistic approach to equipment maintenance that strives to achieve perfect production  |
|          | 138   | TPMS         |                                     | Tyre Pressure Monitoring System  |
|          | 139   | TPS          |                                     | Toyota Production Systems  |
|          | 140   | TQM          | Total Quality Management            |  |
|          | 141   | TRA          |                                     | Tyre and Rim Association   |
|          | 142   | TRIZ         | Theory of Inventive Problem Solving | The next evolutionary step in creating an organized and systematic approach to problem solving   |
|          | 143   | TT           | Top Talent                          | Consistent High Performers in the organization   |
|          | 144   | TT           | Takt Time                           | The rate at which you need to complete a product to meet customer demand   |
|          | 145   | TWI          | Tread Wear Indicator                |  |
| U        | 146   | USA          | United States of America            |  |
|          | 147   | UVR          | Utility Vehicle Radial              | Radial tyres for Utility Vehicles  |
|          | 148   | UX           | User Experience                     | The user experience is how a user interacts with and experiences a product, system or service  |
| W        | 149   | WEF          | World Economic Forum                | World Economic Forum   |
| Y        | 150   | YTD          | Year Till Date                      | A term used for conveying the period considered for specific data / trends from the beginning of the financial year till a particular date |