

# Managing Director's Overview

## *Reimagine, Reinvent, Grow*

*A once in a century Pandemic is challenging the world, and as the waves return, it continues to surprise and evade preparedness. However, humanity will indeed unite and rise together with a firm resolve to fight back and prevail.*

COVID-19 has been exerting an overwhelming influence on many aspects. It will surely force each one of us to Reimagine, Reinvent and seek sustainable Growth with innovative and more nature-friendly approaches aligned to the UN sustainable development goals. It is ironic but true that humanity needs to change at a faster rate than the variant itself. While the apparent immediate focus shall be on Infrastructure, Healthcare, Sanitation and Pharmaceutical, etc., the most profound impact shall be felt on the global supply chain, focusing on sustainability, green energy transition, and the need for countries worldwide to ensure self-reliance on identified and earmarked key and strategic areas.

The Pandemic has had a devastating impact on the citizens, and the economic impact will surely reverberate far in the future. And with sorrow and grief, we also know that last year has profoundly impacted our employees, customers, projects teams and their near and dear ones, my heartfelt condolences to all those who have been adversely affected.

When the Pandemic first emerged in the early part of 2020, everyone was caught unaware, and there was uncertainty about the future. At TCE, our team demonstrated leadership, agility, rapid learning and quickly adapted to the new scenario and switched to working from home within two weeks of the first lockdown announcement in late March 2020. This was attributed to the resilience, flexibility and learnability of our leadership and talented employees. These inherent traits that each TCE'ite exemplified were aided by our company's systems and tools, enablers adopted over the past few years. Our strategy of Growth and thrust on internationalisation of operations, standardisation of processes and protocols, and aligned strategy execution, with carefully planned and executed investments over the last eight years, ensure seamless digital operations across TCE. It includes collaboration technologies, 3D



**Amit Sharma**  
CEO & MANAGING DIRECTOR

toolset, engineering software, cybersecurity and various online tools across Order to Delivery, Project Lifecycle Management, Document Management and SAP for Financials. With such a strong foundation and enablers, we ensured safe and secure switchover to 100% work from home and delivered our customer promises and projects.

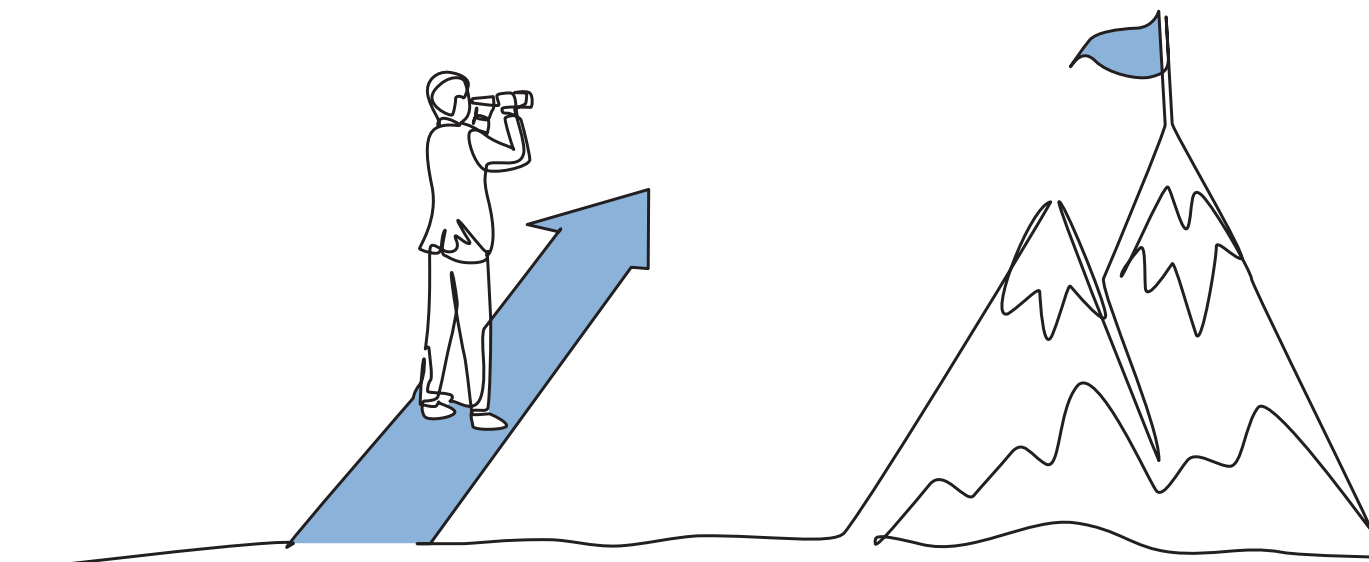
TCE demonstrated flexibility and resilience to ensure operational continuity to hedge the unknown that the Pandemic was challenging us with, few examples such as:

- Proactively working with customers and planning the best possible delivery options and ways to deal with the immediate impacts of the Pandemic.
- Upskilling people, project teams and vendors and leveraging technology to help with seamless operations while working from home across different locations, project, and client sites.
- Ensuring employment security for our employees and ensuring their wellbeing. Embracing togetherness using virtual means to help bring mental wellness, motivation, and agility.
- Enabling enhanced health insurance coverage along with top-up plans.
- Refined and upgraded our business continuity plans to deal with challenges posed by COVID-19 to ensure proper risk management of emerging issues of employee safety, customer connect, enabling work from home operations, delivery of assignments in India & overseas, IT support, and other support operations.
- Engineering Consulting Solutions and concepts to aid in the joint fight against the Pandemic.

Looking back at 2020, I am proud of what we have achieved and how our teams quickly adapted to the change. Today we stand together as a more resilient team ready to **Reimagine, Reinvent and Grow**.

## Performance Review

- In FY 2020-21, the new sales order intake was the highest ever, closing at Rs 1185 Crore at the consolidated level, despite a slight reduction in the contribution of our international orders. While the top-line revenue took a dip of 11% YoY, we ensured a healthy bottom line and sustainable operations. TCE became a ZERO debt and cash positive company, a significant milestone achieved in FY 2020-21 due to focused efforts on collecting our dues. COVID-19 specific measure, limited travel and limited use of office infrastructure were responsible for lower operational expenses.
- TCE moved up in ranks in the ENR Top 225 International Design Firms to 116. In FY 2020-21, 41% of our revenues and 26% of the business acquisition came from international markets. FY 2020-21 has been an aberration wherein international signings have been delayed due to deferment of both CAPEX and OPEX spends by customers. The Pandemic, too, had a bearing on our overseas acquisitions.
- Talent retention is an essential aspect of any consulting business. In FY 2020-21, the attrition dropped from 13% to 5%. We had to freeze all new hiring and optimise outsourcing.
- TCE launched TCE SmartSite™ to manage our projects site using digital enablers and reduce paper-based work methods. The SmartSite™ app works alongside real-time safety app Suraksha and survey drones, and other data acquisition devices. The digital SmartSite™ app has made the progress review real-time, with virtual reviews between remote teams and customers. It has also helped to keep our employees safe during the Pandemic.
- With the increasing impetus by the government of India on infrastructure development, FY 2020-21 has seen an upward trend in Capex investments. This year 82% of the revenues came from clients' Capex investments.



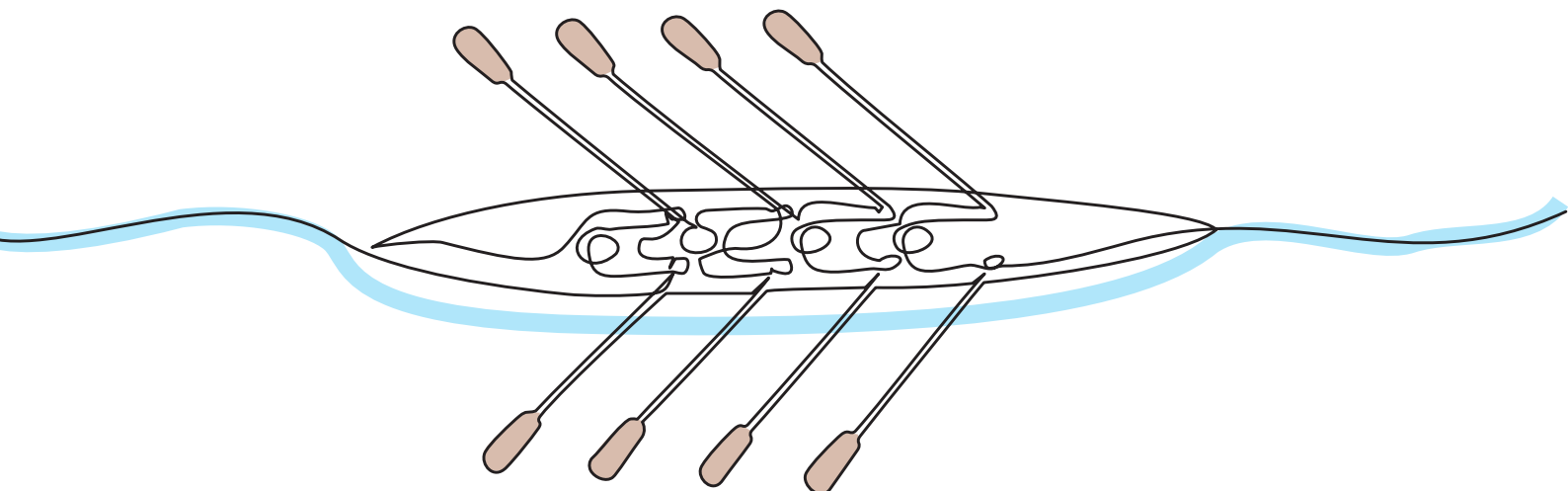
- Our focus on sustainability and energy transition has resulted in our involvement in Aluminium, Zinc and Copper projects across the globe as well as renewable energy projects and the biofuels arena.
- We are the primary consultant for 14 Smart Cities and 50 Amrut Cities in India. We are working on various initiatives at the state and city level to improve healthcare, sanitation, housing and utilities.
- Our Project Management team stood on the ground as front line warriors to ensure the continuity of construction across many sites in India during the Pandemic. They coordinated with all the stakeholders on-site for strict compliance with COVID-19 HSE norms and safe construction works. This was well recognised by important Government projects, Industrial and Pharma Industry
- Strategic accounts contributed 51% to our total revenues, reaffirming the faith in TCE as a value-adding partner of choice.
- TCE once again had the privilege of associating itself with some key landmark projects like Central Vista, CIDCO Mass Housing, Ayodhya and Puri Temple, National High-Speed Rail and ITER, to name a few.
  - The national high-speed rail is one of the most iconic and strategic projects in the nation and one of the largest project globally. TCE is the lead consortium member and partnered with two domestic and one Japanese consulting firm. We are delighted to have emerged the winners of this keenly contested bid and are awaiting our Letter of Award in FY 2021-22. This eight year long project has a total order value is upwards of INR 1200 Crore.
  - TCE is proud to be associated with ITER, the world's massive fusion experiment in collaboration with thirty-five nations. Our enhanced and long-term association with ITER reinforces the value TCE adds to a global collaborative project aimed at a sustainable future.

- Our continued focus on the customer, delivery excellence, innovative solutions, targeting strategic geographies and agile delivery methodologies augured well.

### Strategy and Operations

COVID-19 has impacted the businesses worldwide. We saw a decline in both CAPEX and OPEX spends by our customers. However, with a well-diversified regional, sectoral and client spread, TCE will be able to navigate these unprecedented times. After a record FY 2020-21 year where TCE secured the highest order book. The company has taken measures to ensure FY 2021-22 performance is per plan despite the challenging Pandemic and unpredictable market conditions. In FY 2020-21, while there was enhanced exploratory activity and related efforts put in by our teams on the Digital front and Industrial Internet of Things (IIoT), the actual spend was muted, though the intense exploratory activity bodes well for such investments to take off in the coming years.

The resilient team at TCE has demonstrated resolve, perseverance, customer focus, innovation, and learnability – aligning with our core values, vision, and mission. With “Work from Home” becoming the new norm, our teams are geared to deliver from anywhere, working closely with the customers. Detailed impact analysis with the new COVID-19 Wave 2 and Wave 3 is ready with various scenario-based financial modelling, actions, responses, and goals. All this will help guide us in times of uncertainties, and we are confident of delivering sustainable performance in times to come. We aim to enable and support our workforce and their families to get vaccinated in the coming months and, in parallel, work on a roadmap to gradually have a balanced hybrid model between office and Work-from-home.



## Employee Specific Initiatives:

- 1. Leadership and Managerial Transformation Training**  
to adapt to change and lead was delivered to top 2% of TCE leaders. An eight-month-long virtual leadership training module was conducted by Tata Management Training Centre, the group's leadership institute.
- 2. Enabled Work from Home:**  
More than 95% employees were enabled to work from home within the first week of the lockdown, and workstations & devices shipped home wherever required.
- 3. Actively Communicated with Employees through regular connect calls, Intranet, Internal Social Media Mailers on:**
  - COVID-19 Do's and Don'ts
  - Visual SOPs and Precautionary Protocols
  - Regular TEAM calls and Wellness Sessions
- 4. Regular sanitisation, masks and social distancing across Delivery Centers**
- 5. Enhanced communication forums & employee touchpoints:**
  - Numerous companywide TEAM calls (30+) attended by more than 90%+ employees were conducted.
  - Continuous support and connect was established with employees during the Pandemic.
  - Weekly Connect Calls, Leadership Connects, HR Connect, e-Townhall, DC Communication held with employees.
- 6. Launched COVID-19 Kavach Insurance Top Up:**
  - Conducted drive for higher enrolment of employees for COVID-19 Specific policy.
  - Encouraged employees to seek additional insurance cover by opting for a top-up on the existing cover.
  - Extensive communication, including emails and virtual group calls across locations, were conducted to clarify employee queries on the available options.
  - Enhanced efforts for employees to opt for Group Voluntary Policy options covering employees family and top up options for voluntary parents' policy.

- 7. Mutual Family Relief Scheme:**

Money disbursed to employees family for relief in case of untimely demise. Consideration of spouse /children for suitable job roles based on company policies and adequate qualification and skill.

- 8. Leave Bank Policy:** Encouraged employees with surplus leaves to donate to colleagues in need.

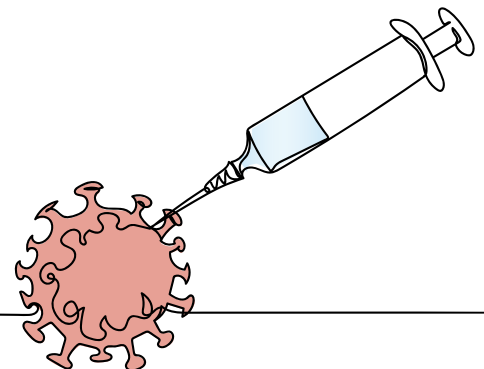
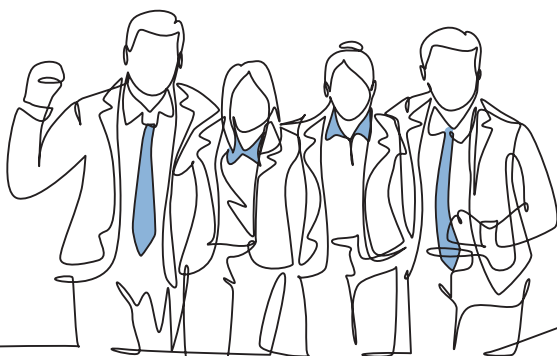
- 9. COVID-19 Vaccination Drive:** Drove rigorous communication through TEAM calls, mailers, and internal social media platforms to create awareness on COVID-19 and encouraged employees to opt for vaccination. Also empanelled with Tata Group companies and external healthcare providers for vaccinating the employees and their family members at our offices PAN India.

- 10. COVID-19 Recovery Retreat:** Launched a series of programs for employees who have recently recovered from COVID-19. Recovery Retreat brings a special session on Breathing Techniques to revitalise lung capacity, build immunity and help them achieve an inner equilibrium.

- 11. Emergency COVID-19 Support:**

- Facilitated Hospitalisation by connecting with Hospitals, ensuring RTPCR Testing, Tele Consultation and timely admission and care.
- 24x7 COVID-19 taskforce set up to address employee concerns & queries related to COVID-19, ensuring timely support for isolation, medication, transportation, and hospitalisation.
- Ensured timely medicine availability by establishing direct connects with the manufacturers for procurement of emergency medicines.
- Created COVID-19 care centres equipped with oxygen support by converting guest houses and some office space across 7 locations in India. The centre caters to mild and asymptomatic patients.

- 12. The Pandemic has, to date, impacted 403 employees, our sincere and heartfelt condolences to the eight employees who lost the fight.**





## COVID19 Specific Engineering Solutions by TCE

*As the impact of the Pandemic was being felt from March 2020 onwards, and while the teams were working on rewiring our operations and taking other prudent measures, there was a deep sense of responsibility towards contributing to the fight against the Pandemic. Our key currency is the intellectual horsepower, thought leadership and innovative mindset of our talents, we took a firm resolve to use this currency and contribute effectively to the cause. To date, close to 15,000+ consulting person-hours have been devoted to fighting the Pandemic. Our efforts focused on ideating, conceptualising, designing, engineering, and enabling various innovative initiatives as a Pro-Bono activity by TCE.*

The ongoing Pandemic second wave requires urgent actions towards enhancing the country's healthcare, medical oxygen generation, and distribution capacity. Our teams have made humble efforts towards contributing our bit on this critical requirement, focusing on Agility, Indigenisation aligned to self-reliance, quality and cost competitiveness. Our actions have leveraged collaboration, teamwork, and partnerships externally to achieve more together in the shortest possible time.

### Emergency COVID-19 Infrastructure:

Our teams from TCE and our subsidiary Ecofirst worked on war footing to conceptualise and design both modular units for COVID-19 patients and emergency jumbo COVID-19 hospital structures. We also collaborated with the Group Companies and multiple External Firms to provide these concepts and solutions for implementation and actual rollout.

### 1. OXYGEN – Engineering LIFE

#### • OXYGEN Ventilators:

An engineering, feasibility and viability study was conducted on multiple ventilators, and a viable opensource ventilator was identified. The learnings were shared with group entities for evaluation and appropriate next steps were suggested for mass manufacturing related tie-ups.

#### • OXYGEN Distribution Supply Chain:

To enable last-mile oxygen distribution and supply chain logistics, TCE researched and presented the concept of conversion of cylinders such as Co<sub>2</sub>, CNG, LPG (for gas) etc. Suitable precautions, colour coding and planning

for Gaseous Oxygen distribution across the country leveraging the existing LPG bottling and distribution network was also detailed and shared with PESO.

#### • OXYGEN Generation PSA Plant Scale:

To leverage the existing infrastructure in the country, the concept of conversion of PSA Nitrogen plant to PSA Oxygen plants was developed by TCE and successfully piloted along with IIT Bombay. Close to 75+ PSA Nitrogen plants (more expected to add up to 100+) are currently being converted for Oxygen generation.

#### • OXYGEN Plant Critical Raw Material:

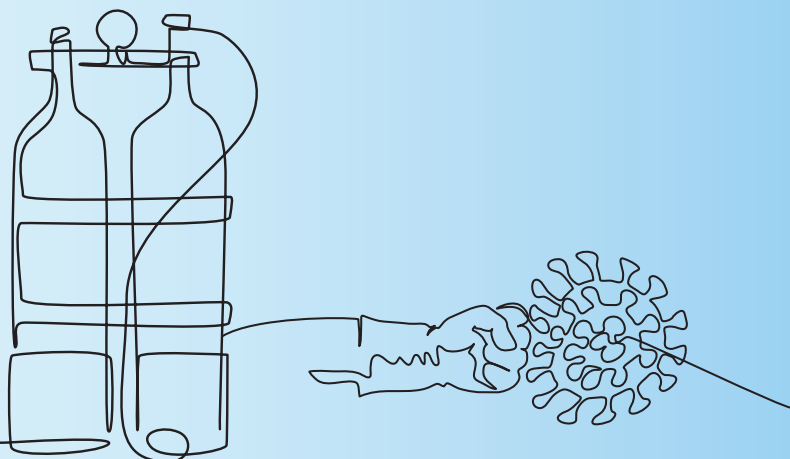
Jointly as a team, Tata Consulting Engineers, Tata Chemicals and IIT-Bombay were able to garner GOI support for emergency airlift of Zeolite from Germany with the support from BASF leadership. The Implementation of this concept is being done with the help of the Ministry of Environment entity Central Pollution Control Board (CPCB) as assigned by the GOI and project managed by TCE.

#### • OXYGEN Generation using O<sub>2</sub> Concentrator:

Prototyped opensource design ([www.oxikit.com](http://www.oxikit.com)) in less than five (05) working days with benchmark results of 10-20 LPM with 90-94% oxygen concentration. Necessary design changes and process refinements were incorporated to ensure benchmarked results under Indian conditions. Except for the Zeolite, locally available Indian parts for the prototype were used. The Opensource oxygen concentrator design is actively being explored by startups, entrepreneurs and MSME's across India.

#### • OXYGEN Infrastructure within Hospitals:

Our teams are assisting various Central efforts, State Governments, Startups, NGOs and Hospitals on all of the above topics. We are also providing consultancy for new PSA Oxygen plants, hospital oxygen infrastructure, pipelines and related checklists and audits. We have responded to more than 3000+ requests for information and support in the last three weeks.



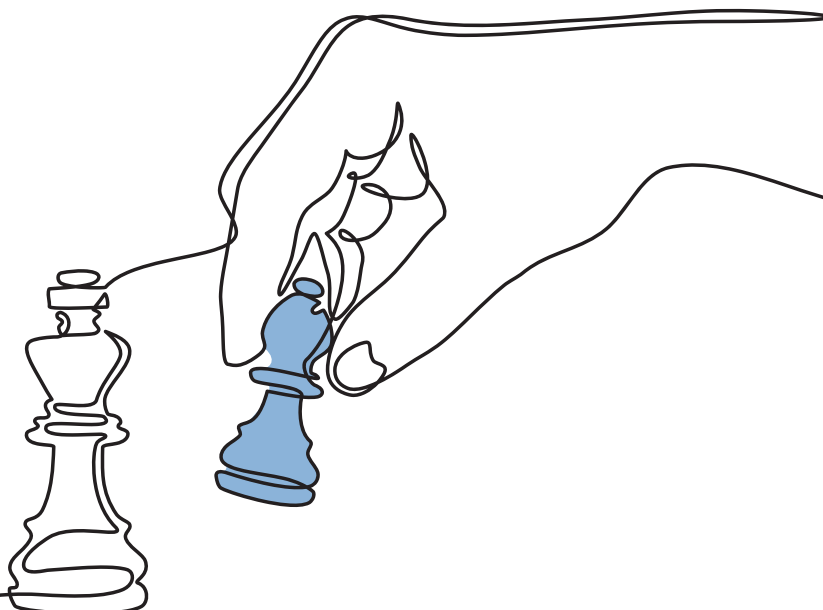
### TCE Thought Leadership and Brand Recall

With the Pandemic triggered travel restriction, our teams have leveraged online virtual means to remain relevant, connected, and closer to our customers, policymakers, and thought leaders. The financials, order book, active queries and website visits clearly show the effectiveness of these virtual modes of connect and brand recall.

1. **Online Webinars:** 85+ speaker sessions by TCE across various industry and thought leadership forums. These ranged from being part of the Global Horasis panel to various leading publication, reputed entities like TERI and policymakers across multiple ministries and public sector entities.
2. **Whitepapers Published:** 40+ white papers, brochures, manuals, and reputed technical publications.
3. **Indian Standards Committees:** 50+ TCE employees as members on various BIS committees.
4. **Advocacy:** More than 75+ sessions were held with the Government and Senior Stakeholders at the Centre and State level across various Ministries.
5. **C-Level Customer TEAM Sessions:** Close to 60+ client sessions at C-level/Senior Executive level were organised.
6. **Social Media Posts and Updates:** Published 150+ Linked posts with 3.35 lacs+ followers, 30+ Youtube videos uploaded, 100+ Twitter tweets.
7. **COVID-19 Solution Support:** 200+ business queries generated online and 3000+ COVID-19 specific questions responded. Held 100+ telecons and sessions on COVID-19 solutions to help Central and State Governments. MSME and entrepreneurs keen to manufacture COVID-19 specific open-sourced solutions by TCE .
8. **TCE Website Visitor Statistics:** TCE website saw an average of 28k+ unique visits per month.

### 9. Industry-Academia Collaboration

- The construction sector is one of the top contributors to the Gross Domestic Production (GDP) of India. From both cost optimisation and environmental sustainability point of view, it is imperative to look for increased recycling of construction waste materials while meeting future construction demands given the national importance and growing need to develop low-cost housing. TCE is sponsoring a technological solution that is being co-developed with IIT Bombay. The focus is on leveraging 3D civil printing, reusing 100% recycled construction and demolition waste material to minimise environmental impact. This project shall support and offer sustainable and eco-friendly solutions embedding the latest technologies and contribute to the "Make in India" campaign for Nation building.
- Municipal solid waste (MSW) is a colossal problem vitiating environmental safety in India, where at present we rely on landfill due to various constraints. Incineration of Indian MSW is challenging due to its high organic fraction, moisture content, inert content, and low heating value. Due to its unfavourable physical properties, incineration of Indian wastes is feasible only with an additional fuel supply. A small-scale combustor has been designed and fabricated by IIT Bombay, which would run on MSW feed. TCE is further sponsoring this project to carry out the experimental investigations. The proposed Municipal solid Waste combustion technique would benefit the overall environment tremendously. Proper process development for waste combustion could curtail human dependence on fossil fuels. The massive pile of MSW across the globe would be considered a new renewable source for energy soon.



### Future Readiness

As the global Pandemic evolves, it is redefining and rewiring businesses and economies the world over. We already see an increased thrust in digital cloud-based solutions along with more resilient location-specific Infrastructure. We reaffirm our commitment to “Engineering a Better and Sustainable Tomorrow”, while listening to our client needs and future demands. We are enhancing our thrust on sustainable solutions and designs. We have been actively pursuing our focus on Energy Transition and see ourselves playing an essential role in the Hydrogen Economy, Green Chemicals, Circularity, IIoT and Electrification of Everything in the Ecosystem. Apart from this, we are also actively pursuing Bio-based technologies for Solid waste collection, management, handling, recycling and waste to energy conversion; Sustainable generation of chemicals for industrial application and food processing industries; Improvement of water distribution networks for reduction of losses using sensors; GIS mapping and host of other digital technologies.

TCE is today more agile and nimble, eagerly waiting to effectively contribute towards our client needs and be their strategic partners aligned to their future evolution roadmaps in the post-Pandemic normal. Our stress-tested, proven and enhanced processes, frameworks and technology investments have helped future proof the company. A sense of admiration, respect, and satisfaction humbles me, observing our teams working together to help our clients, internal teams and

employees, and various stakeholders amidst work from home and other challenges posed by the Pandemic on the personal front. My sincere thanks to each TCE'ite and their family members who have supported and have been an integral part of ensuring and delivering TCE performance while handling their personal needs and demands. I would also like to thank our customers for their understanding, support, and flexibility while jointly tackling various challenges and situations over the last fifteen months. On similar lines, my appreciation and thanks to our vendors and suppliers who have worked seamlessly with us as a well-knit team. And finally, thanks to our Chairman and Board members, who supported, motivated, and guided the team throughout the year.

Together with our teams, I am optimistic and excited to meet and exceed our customer needs and demands, deliver shareholder value and work alongside passionate innovators, disrupters, and technologists to deliver sustainable performance and outcomes in the coming years. I seek your continued support, trust and collaboration.

Sincerely yours,  
**Amit Sharma**

