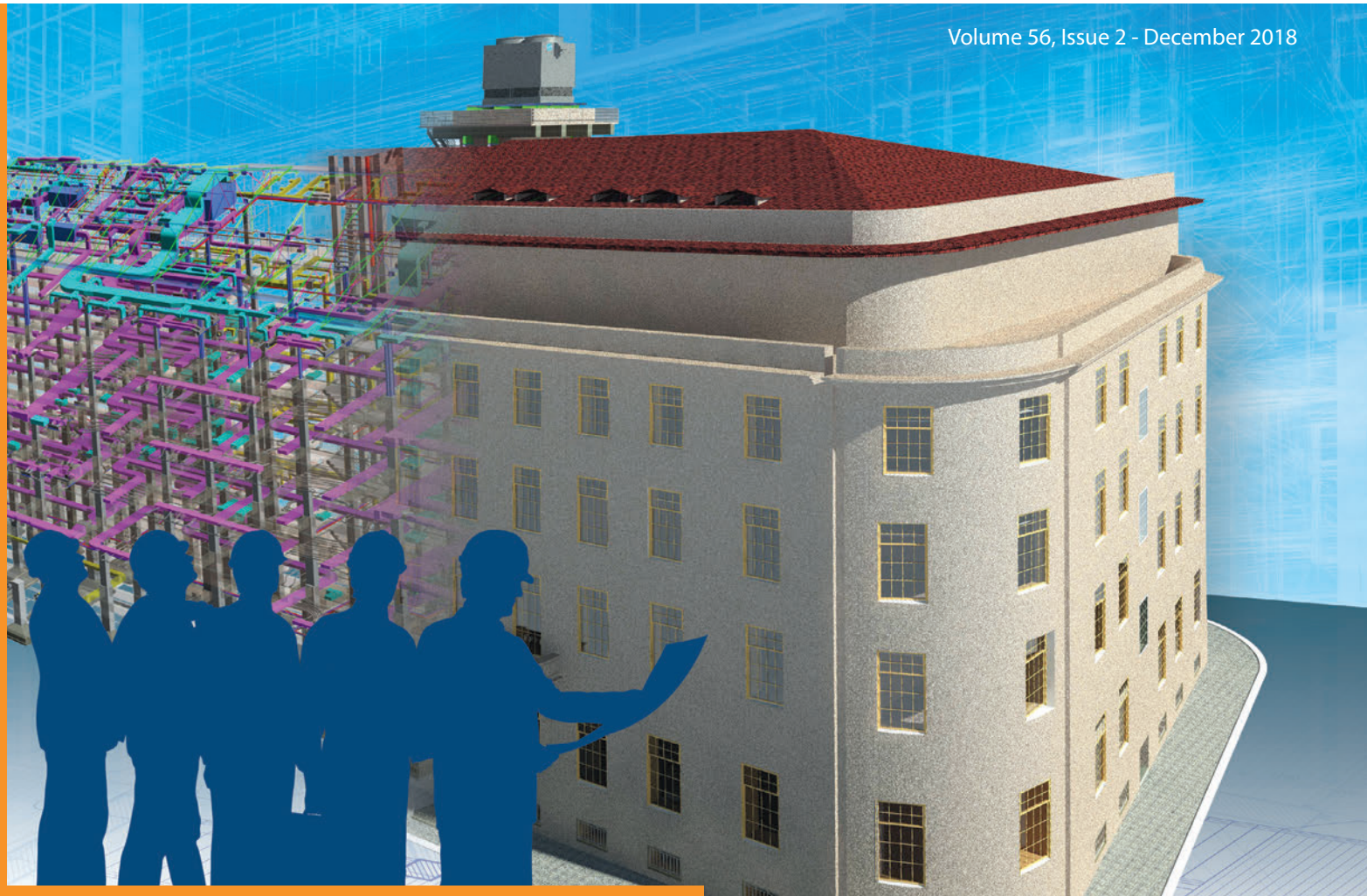
TATA

TCExpression

TATA CONSULTING ENGINEERS LIMITED

Volume 56, Issue 2 - December 2018



Off the Beaten Track

Dear Readers,

This edition of TCExpression, Off the Beaten Track, highlights TCE's prowess in one-of-a-kind engineering projects. Our engineering minds are a passionate lot and are specially charged in the face of projects with no precedent. This enthusiasm and passion has kept our spirits high and talent totally engaged. It has indeed been a celebratory quarter for TCE with two such successful projects coming to fruition. And so begins the festive season of Diwali and Christmas. Here's wishing our readers best wishes and prosperity in this quarter of festivities as we herald a hope-filled New Year.

Mallika Sriraman

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Reflections

Dear Friends,

It is time for the curtain-call on 2018 and as always, it has been an eventful year. We paid tribute to the legacy of the Tatas, commemorating 150 years of Tata. Colours of Tata @ TCE was the theme by which we celebrated our 150 year legacy.

TCE stood in the spotlight with great improvements in business excellence and processes. We were recognized for progressing in our business excellence journey in the Tata Business Excellence Model, with the JRD Quality Value (QV) award for having crossed the 500 score milestone. TCE and Ecofirst teams worked together for the modernization of the Tata headquarters, Bombay House. Yet another proud moment came when the world's tallest statue, the Statue of Unity was inaugurated. TCE served as a proofing consultant and lived up to the trust placed in the Tata name. All these would not have come to fruition if not for the passion and dedication of our people and the patronage of our customers.

We have put together all of the above stories in this edition of TCExpression. As we step into the new year, I look forward to the continued engagement with our stakeholders. I wish you all the very best for the festive season and a Happy New Year!

Amit Sharma
Managing Director

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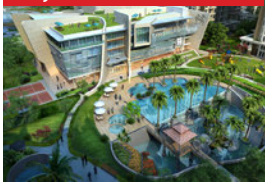
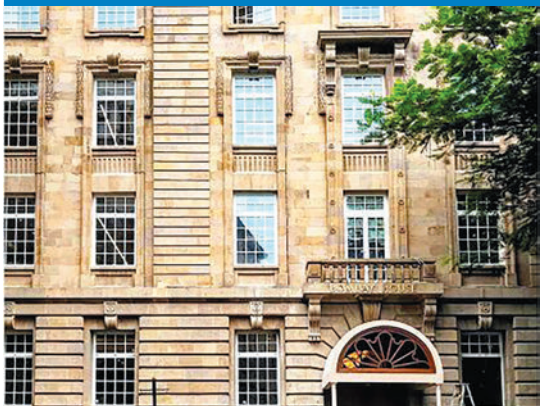


Off the Beaten Track

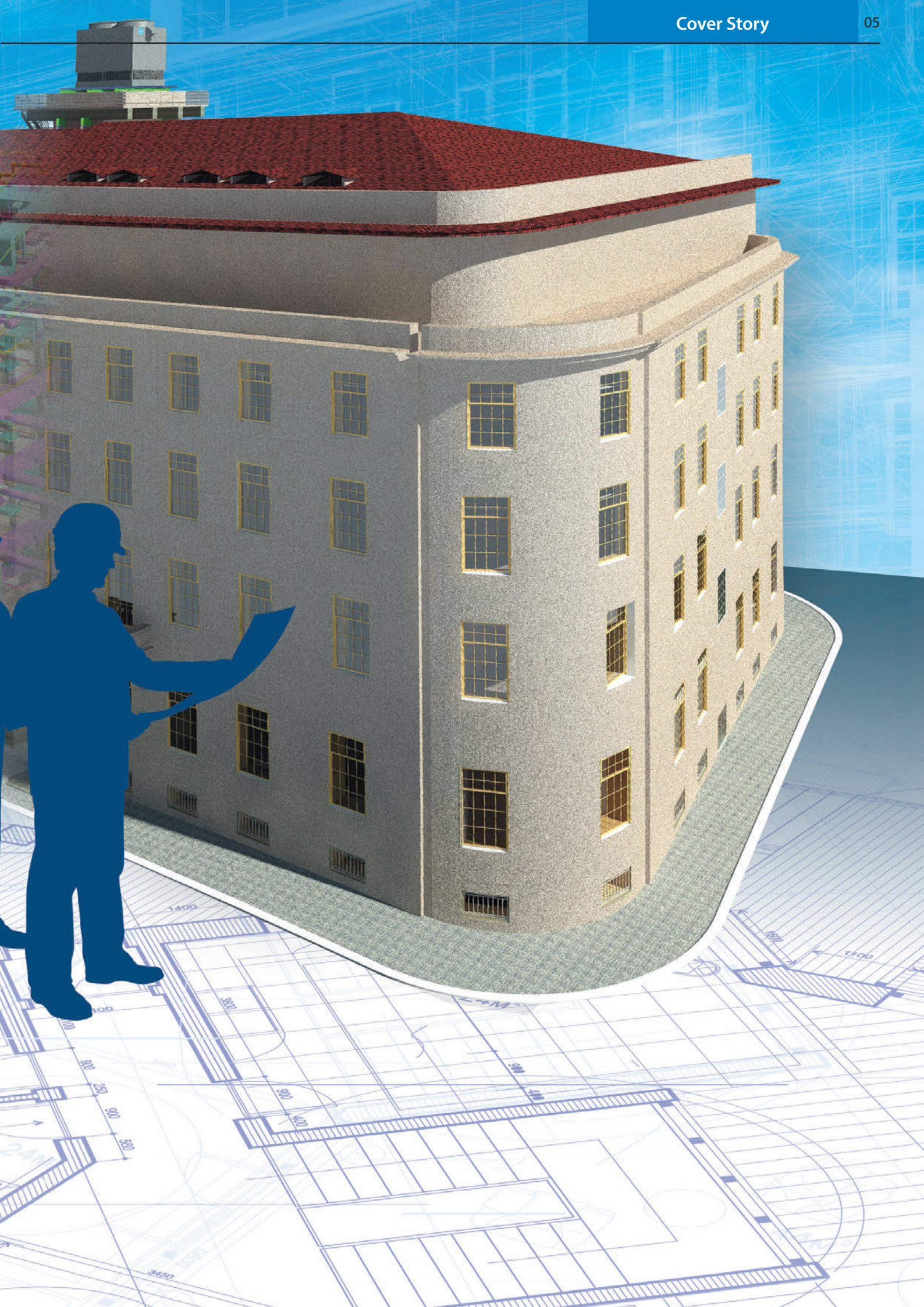


TCEndeavour

Off the Beaten Track

Bombay House was inaugurated just as planned on the birth anniversary of JRD Tata after a 6-month renovation. As the reverberations of the drilling machines went silent, the realisation of the engineering solutions in the project sunk in. Here is the story of the brass stacks behind the creative glamour.

The idea of a heritage building and a modern, open office space combine seems like an oxymoron that is a little difficult to picture. Making this into a reality with incredibly tight schedules is just the tip of the iceberg of challenges. The Project Management Consultancy Services (PMC) services for the transformation of Bombay House that Tata Consulting Engineers and its subsidiary Ecofirst Services undertook is a miracle of sorts. Most heritage buildings the world over are modernised to serve as museums, exhibition centres etc. But to take on the transformation of a heritage building into a fit-for-purpose, fully-functional, corporate headquarters, aligned to the benchmarks of the Tatas, is indeed a story to be chronicled. The architect's design is a concept; HVAC, MEP, IT, Smart Building are brass stacks



A normal window custom-designed to cut the noise out.

to stitch up the concept into reality. Net result is a spectrum of conflicts that have to be resolved while keeping the concept intact. There were many stakeholders, there were still more on the ground who worked tirelessly to achieve what was spelled out to them. Most of all there was one strong voice that spelt out the vision, showed them the goal post, kept them going till the task was done. There are no guesses here as to whose voice it was!

The architectural and interior design concept is splendid. Brass tacking this into a functional office was phenomenal. Thus, a work of art has been created! The teams followed the 'voice' towards their goal but oblivious of the fact that they were creating an almanac of innovative engineering solutions. The facility was inaugurated just as planned on the birth anniversary of JRD Tata, the 29th of July 2018. The dust has settled down, the drilling machines' reverberations are silent. The realisation of the creative solutions by the team involved in the project came to light. Here is the story of the brass stacks.

Acoustics to shut the din out

The key requirement here was that the office should cut out the outside noise; a fair request, but for the technical challenges. The Bombay House location is the busiest hub of Mumbai with outside noise levels at 90 decibels (DB). TCE-Ecofirst combine provided customised solutions with smart windows, reducing the noise levels to 38 DB which is a Grade A permissible interior norm. A lot of re-engineering was applied here. A Smart window with a high performance neutral glass with a 5mm-16mm-11.72mm section was designed to integrate into the Scheuco (German) aluminium sections. The acoustics disruption here was the use of double laminated glass 5mm x 2 plus interspacing of 2 (0.76mm) PVB acoustic films in the glass section. Efforts also went into the selection of right VLT component of glass. The net result was noise reduction to 38 DB, reduced heat loads by 8%-10% which would reduce energy consumption by air-conditioning and increased natural lighting.

Open ceiling plan in a heritage building with column beam structure

A traditional heritage building comprises of conventional beam structures. The architectural design was already envisaged with deep aesthetics in the form. Translating all this into a functional open ceiling, open office functionality with required Mechanical, Electrical and Plumbing (MEP) elements called for more engineering eureka moments. Technical solutions had to be tried out 'virtually'. The TCE-Ecofirst team have now transferred the entire AS BUILD asset of the MEP services as a digital inventory using Building Information Modelling (BIM) system and REVIT tools. The implication–a digital double of the entire building that can be visualised in a simulated environment. This mapping of the digitised asset will enable all future modifications to be reviewed digitally through simulations before implementing changes. This will also speed up the process of remodelling in future. Every detail including procurement data is captured digitally.

Heritage building + ECBC super building + Green building Platinum rating

High standards for acquiring green building ratings are primarily achieved through energy efficiencies and innovative HVAC solutions-a combine of electrical and mechanical engineering wizardry. Throw in the interior aesthetics to challenge this and an open ceiling mandate to add cold water to the visual concept. The interior design and the technical teams were in a tight knot.

A vision document, complete with the requisite codes and standards as per super efficient HVAC building guidelines, was created. Predictive energy modelling using advanced tools such as eQuest and Design Builder were used. This ensured that the building is compliant with Energy Conservation Building Code (ECBC) 2017 and the existing Green Building Platinum rating. The additional value engineering provided was an industry first wherein a measurement and verification protocol was set up in accordance with global standards of IPMVP. In plain language, Bombay House has the tools to monitor the building energy consumption, recalibrate the energy model and check/benchmark the actual energy consumption of the building. These protocols ensure that high efficiencies in energy consumption are maintained continuously.

Geek-speak on HVAC installations

- Use of Magnetic Levitation Chillers with Ultra High Efficiency
- Primary Variable Pumping system
- Use of VFDs on Cooling Towers
- Up gradation to new efficient Cooling Towers
- VFD based AHUs with EC Motors and VAV Controls for air distribution

A very innovative invisible Small Duct High Velocity (SDHV)-based air distribution system along with Specialised Air Handling Units (AHUs) was recommended for the core shared spaces and meeting rooms. This 'invisible' ducting was super thin ensuring that the design aesthetics and good ceiling heights were maintained while providing high end functionality required for a large office space with state-of-the-art digital facilities.

Tweaking a heritage building for structural and fire safety standards

The TCE team upgraded the safety and fire protection to current fire safety standards as per the Brihanmumbai Municipal Corporation (BMC) norms. The MEP Design consultants SNK was presented with a fire safety protocol and structural peer review findings by an expert team from TCE. The building's fire-fighting and Protection Design is fully compliant with wet hydrant and sprinklered system including basements and attic areas thereby enhancing the building lifespan for the next 50 years. The structural interventions which included widening of the main entrance steps needed an expert review by TCE structural teams. A common step-by-step method statement for carrying out this work was agreed upon.

One-Tata for one smart Tata headquarters

The many components that formed part of the Bombay House transformation were Architecture and Interior Design, HVAC & MEP, Sustainability & Green certification, Construction Management and IT Infrastructure & Digitisation. IT and Digitisation was just as challenging because the need of the hour was to plug-and-play futuristic IT technologies in a heritage building redesigned with an open-ceiling concept. The TCE-Ecofirst team worked with the collective expertise drawn from across the Tata Group companies like TCE CIO office, Tata Sons Group Digitisation Cell, Tata Elxsi, MPS (Erstwhile Tata Interactive), TCS, etc. This led to a network of numerous stakeholders involved. Key features of the IT & Digital transformation in Bombay House included:

- A Tata Xperience Centre showcasing the story of Tatas and Group companies.
- All meeting spaces and shared working spaces covered by Wifi and IIOT-based devices to provide world-class Integrated Communication Technologies (ICT).
- Bombay House is a digitally transformed automated world with IOT devices and smart technologies using sensors, DALLI devices and LUTRON for customisation of spaces, indoor temperature, indoor air quality and lighting conditions.
- A smart integration of the intelligent BMS systems on TCS platform to monitor, predict and guide smart meters is being incorporated for continuous monitoring and improvement.

Again, the primary challenge was the conflict between design aesthetics, the required functionality of a state-of-the-art automated work space, an open-ceiling that required ultra-slim ducts for wiring and cables. Several of the automation-works and ICT, the Tata Experience Centre, the HVAC and MEP, were carried out concurrently.

Optimising existing infrastructure

Through the transformation plan, the TCE-Ecofirst team revisited and re-furbished several existing infrastructure. A case in point is the elevator upgradation. The original elevator in the main lobby was functioning at a seven pax capacity per elevator. But due diligence revealed the capacity of the shaft

could be optimised to accommodate double the pax strength. Post the upgrade, the same elevator is now enhanced to carry 14 passengers in each elevator.

Success factors

The most important success factor was a clear vision and direction from the Group Chairman–One vision, one goal, one finish line, completely non-negotiable. No matter what, the building had to be inaugurated on the specific occasion. The main complexity was the extent of stakeholders involved in the project. What worked well was the team work facilitated by key SPOCS that anchored the diverse program management components. There was also continuous brainstorming amidst the stakeholders for consensus and conflict resolution. While this appears a logical path to take, the stakeholders involved were–Principal Architect and their partner consultants like MEP & Structure, Group TATA companies within Bombay House, TATA Group companies that collaborated on their function areas for design and integration, construction management team under SNK, regulatory consultants and owners, consultants, the ABCL team. From the project execution perspective, the interactions with stakeholders from Tata Sons, weekly review meetings to manage project progress and timelines, monthly review by the Chairman, etc., kept the team at optimum levels of performance.

There was also little scope for error or rework. Hence, a pilot approach was taken with Floor 3, East Wing being completely transformed in terms of utility and design. For instance, the initial architectural plan had ceilings and was not along the lines of open office concept, typical of a modern office environment. The design went back to iteration to rework on the pilot. Here, consensus was sought on design vs HVAC and MEP clashes in maintaining codes, standards and engineering protocols. Once the pilot was reviewed, the rest of the project was carried out on similar lines. This saved a lot of time and rework was restricted to a mere 10% and with no cost escalation. Ultimately the bottom line was team work and consensus. This was clearly managed by Ms Arthi Subramaniam, managing the IT, Automation & Digital front, and Mrs Seema Kailash from Group CFO's office, who anchored the teams. Her contribution was extremely valuable to keep the project moving.

The transformation of Bombay House is indeed the pride of Tatas. 127,000 sq ft of a heritage building space was transformed into an ultra-modern heritage building office space within overall timelines of six-seven months. Completed to perfection, launched on the earmarked day, during the 150th Anniversary of Tatas, history was rewritten, a legend reborn. The TCE-Ecofirst team takes a bow as the curtains come down on a landmark project.

Amazing FACTS

400 vendors across disciplines were managed

127,000 sq ft of heritage space transformed

The WOW factors in Bombay House 2.0

- Completely remodelled to retain old world charm and modern aesthetics
- Safety and fire protection standards that are world class with an extended 50 year lifespan
- Energy efficiency at the highest level as per ECBC super norms
- IGBC EB Green building certification PLATINUM rating
- Custom-engineered window envelope and glass for day light optimisation, energy efficiency and noise reduction
- Open office concept with open, high ceilings, breakout spaces that are comfortable
- Agile and ergonomically designed workstations
- Slim ducts for invisible wiring and cables to retain heritage building column and beam structure
- Complete digital inventory of engineering data of old building

- Digitised inventory of the new building, simulated as a digital double of the original for future, modifications in an efficient manner (Being developed)
- Universal accessibility, including ease of use for persons with disabilities
- A wireless virtual world with state-of-the-art automation and IT infrastructure, cloud based data monitoring through sensors and IOT enabled platforms
- Doubled the capacity of the existing elevators
- A 94-year old heritage building upgraded with enhanced life for atleast next 50 years
- Incorporation of smart building concepts, Ipad-based controls for temperature, humidity, lighting, etc., for common meeting rooms and cabins
- Provision to continuously monitor, benchmark and upkeep green building protocols

Nilesh Rao | Kailash Chandar | Chitranjan Kaushik | Ganesh Sankpal | Rakesh Bhatia | Dhun Udachiya

Teaming it together

When the stakes are high, interpersonal relations weave the magic. The transformation of Bombay House came to its timely completion, thanks to some key people who were part of the project.

People responsible for its success and those who supported the endeavour tell their stories behind this historic project.

Servers:

Nilesh Rao (TCE) and Prashant Salvi (Ecofirst) were responsible for design of IT Infrastructure in association with Group Corp IT team, TATA SONS for the two server rooms (On site and Off site) and the Experience Center Server room. The server rooms and complete infrastructure is designed with N+1 redundancy equivalent to Tier 2 Level of a Modular Data Center with high energy efficiency and low PUE.

Prashant Salvi | Aishwarya Padmanabhan | Shraddha Jadhav | Harsh Vikram Singh | Freddy Talati

Seen in Picture from L-R:

***Mr Nilesh Rao**, TCE, **Mr Kailash Chandar**, Ecofirst, **Mr Chitranjan Kaushik**, COO, Ecofirst, **Mr Ganesh Sankpal**, Ecofirst, **Mr Rakesh Bhatia**, Sr. VP, Ecofirst, **Mr Udachiya**, The Associate Building Co. Ltd, **Mr Prashant Salvi**, Ecofirst, **Ms. Aishwarya Padmanabhan**, Ecofirst, **Ms Shraddha Jadhav,** Ecofirst, **Mr Harsh Vikram Singh**, Ecofirst, **Mr Freddy Talati**, CEO, The Associate Building Co. Ltd.*

Overall Program Management

Unseen and away from the limelight but making a strong impact in pushing the project to move forward was Seema Kailash from the Group CFO's office. Seema worked from the front end and the back end, ensuring timely clearances, bringing the various teams together and serving as a 'go-to' person for everyone involved in the project. Her support was critical to the timely completion of the project.

Teaming it together

Mr. S. Padmanabhan
Chairman, Tata Consulting Engineers Ltd
and Ecofirst Services Ltd

“Bombay House 2.0 is a standing example of the passion of so many engineers, designers and architects.

Converting a heritage building into a functional, digitally top-in-class workspace called for the convergence of diverse talents. Project management consultancy for this project is a one-of-its kind experience for the TCE-Ecofirst team. It is their passion and endurance that made it possible to complete the task as per the given stipulations. Congratulations to the team.”

Mr. Amit Sharma
MD, Tata Consulting Engineers Ltd

“This is indeed a prestigious and unique project for TCE and Ecofirst. It is a great addition to several first-of-its-kind projects we have managed over time. This paves the way for more such Heritage Building related service solutions.
I am very proud of my teams who have put in a stellar performance to deliver this project on time.”

Mr. Freddy Talati
Chief Executive Officer, The Associated Building Company Ltd.

"The task of the TCE-Ecofirst team was an unenviable one, with unprecedented challenges, tough scenarios in managing contractors and a plethora of vendors to be handled. The TCE-Ecofirst teams worked almost 24/7 to accomplish their task within the stipulated timelines."

Mr. Chitranjan Kaushik
Chief Operating Officer, Ecofirst Services Ltd

"Converting a 90-year old heritage building into a modern, tech-savvy office space was indeed a huge digital transformation. It required the combined might of creativity, technology and engineering genius. We were at the edge often but I am so glad to have been part of this."

Rakesh Bhatia
Bombay House Project Director & Sr. VP, Ecofirst Services Ltd.

"The Bombay House 2.0 project presented before me a quintessential/ sui generis opportunity. It encouraged me to be a fulcrum between the multiple nodes of the project to craft a near perfect delivery."

Iron-man clad in bronze

MAKING OF THE WORLD'S TALLEST STATUE

Sardar Patel's–Statue of Unity is the world's tallest statue. Standing tall at 182 metres, it is India's pride and an engineering marvel. Top notch engineering stalwarts in the country came together to make this engineering dream a reality. Tata Consulting Engineers shared the proud moment when the 33-month long project was completed and inaugurated by Honorable PM, Shri Narendra Modi. Tata Consulting Engineers Ltd was appointed as the Proof Consultant in joint venture with Egis India.

TCE and EGIS team
Seen in the picture from L to R: Mr. Siddharth Agrawal, TCE, Mr. George Reveiz, EGIS, Mr. Manmohan Soman, TCE, Mr. Mehul Vaidya, EGIS, Mr. Kaustabh Tambe, EGIS, Mr. Amit Sharma, MD, TCE, Mr. Sunil Parikh, EGIS, Mr. Shailesh Singh, TCE, Mr. Pramod Bhandari, TCE

The TCE Story

TCE scrutinised, vetted and conducted technical studies related to wind tunnel test, seismic studies and documents relating to the 182 metres tall Statue of Unity and made recommendation for the architectural, civil, structural engineering components of the statue foundation, statue base, statue structure, (concrete and steel) and bronze cladding.

TCE was entrusted with the responsibility of a Proof Consultant in a joint venture with Egis India. The trust placed on TCE by the project owner implied that TCE had to apply high standards. The task was to ensure the design aesthetics are maintained and all criteria are met within requisite safety standards. The primary challenge was that the statue had a narrow base with the figure's feet being visible as a base. The other statues such as the Buddha, Liberty & Christ the Redeemer do not have such a narrow base. The client's task that had to be met, was that the statue should take the load of high winds and human load at the same time. The statue also had to be Group IV earthquake resistant. TCE's engineering experts studied the design and the requirement and observed that the base had to be raised to higher levels. The design had to be revisited and the base was raised such that the statue is able to withstand earthquakes of Group IV category, that is, seven and higher on the Richter scale. Yet another challenge was to ensure safety norms even as construction sequencing methodologies had to be planned and verified. The final requisite was a 100 year-lifespan. This was a tall order as the SoU had a very slender base which implied vulnerability at the ankles. Wind velocity and human load of visitors at the viewing gallery at the chest level had to be addressed through structural modifications.

This colossal project required a team of engineers' collective might that could make the project a world-class one, delivered within tough timelines. The best design engineers, architects, structural and civil engineers, EPC contractors, etc., were drawn from the world's best in India. Bringing all these various companies together through a JV with Egis, proposing design changes, reviewing every structural and civil aspect, keeping the architectural aesthetics in mind were some of the challenges that were managed.

Statue of Unity Project Stakeholders

The Statue of Unity (SoU) is that of Sardar Vallabhbhai Patel, a veteran of the Indian Independence Movement known as the Iron-man of India, who hailed from the state of Gujarat. A special purpose vehicle named the Sardar Vallabhbhai Patel Rashtriya Ekta Trust (SVPRET) was constituted by the Government of Gujarat for executing the project. The statue has been designed by Padma Bhushan-winning sculptor Ram V Sutar, Larsen & Toubro were the EPC contractors, Sardar Sarovar Narmada Nigam Ltd, a wholly-owned Govt. of Gujarat undertaking was the 'employer'. PMC services were provided by a consortium of Turner Project Management India Private Limited as Lead Member, Meinhardt India Private Limited and Michael Graves & Associates Inc. Proof consultancy was provided through a JV between Tata Consulting Engineers & Egis Group.

FACTS

It took about **250 engineers** and **3,400 labourers** to construct the statue in **33 months**.

The statue is located on a river island facing the **Sardar Sarovar Dam** on the river Narmada in Kevadiya colony, 100 kms southeast of Vadodara city, Gujarat, India.

The statue can withstand wind velocity of 50m/s and **Group IV earthquake resistant** while other statues are Group III.

The **viewing gallery** is at a height of **193 metres** (from the base of the stature).

At **182 metres tall** (w/o base), the Statue of Unity is taller than the Spring Temple Buddha, nearly twice the height of the Statue of Liberty and about 4.5 times higher than Christ the Redeemer.

The statue has been designed by Padma Bhushan-winning sculptor Ram V Sutar, Larsen & Toubro were the EPC contractors, Sardar Sarovar Narmada Nigam Ltd, a wholly owned Govt. of Gujarat undertaking was the 'employer'.

Seen in the picture with PM Modi, is TCE's MD (second from far right) Mr Amit Sharma along with other stakeholders.

Challenges and solutions

WIND LOAD

- Relatively high code prescribed wind speed of basic wind velocity of 50m/s (3 second gust, 50 years return period) and the statue being a relatively low-mass (mostly hollow) structure with a large wind sail area.
- Inclusion of damper (near the head of the statue) to control sway.
- Perforated panels around chest area to reduce wind pressure.
- Structural steel frame with natural/ weathering steel cladding finish.
- Walking pose for wider base to increase support.

SEISMIC LOAD

- To be designed for Zone IV in place of moderate seismicity region specified as Zone III.
- Followed structural parameters used for Narmada Dam.

TOTAL STATUE HEIGHT

- 182 metres from base of pedestal to top of statue preferred.
- Height of pedestal and connection with cross shear walls for effective structural system.

SLENDER STRUCTURE

- Small base, exposed feet (most large statues have a wide base for stability).
- Aspect ratio (height/width) is ~19, exceeding common tall structures (8-14 maximum).

VALUE ADDITION BY TCE

- Foundation thickness originally proposed is increased by 4 metres around core areas where concentrations of forces were significant under severe load combination.
- Detailing of reinforcement in main cores and connection to other cross shear walls and outer core in base are improvised to absorb and transfer forces very effectively with incorporation of boundary elements.
- Configuration of coupling wall connecting both the cores with changes in detailing of reinforcement for better and effective structural behaviour.
- Configuration of steel framing to support bronze façade was improved to handle large cantilever under higher forces at large heights.
- Statue base and statue structural system and detailing were improvised for transfer forces effectively to foundation and to impart additional redundancy into the structure under all worst load combination with alternate load paths under accidental loads case.
- Torsion slab connecting cores at different levels are also improvised to handle torsion effectively under wind or seismic impact of different directions.

Celebrating 150 years of Tata's
– Vintage Advertisements

Power=for better living.....

Take a room...any room... and build this snug hideaway and everything in it.

A few years ago, it became clear that cancer was no accident and that your way of life could place you near the top of the queue; for example, cigarette smoking could help you develop cancer of the lung. Now we know that not only smoking, but other habits too, can help you jump the queue for several types of cancer.

Many women have a deep fear of cancer. Out of every three people interviewed in a recent survey in Britain, two expressed a belief that cancer was incurable, yet the truth is that a high proportion of cancer patients *are* cured and the tumours don't recur.

The problem is that, while people will talk freely about minor ailments, or even heart condition, they almost never talk about cancer. Yet surely a woman must benefit from knowing what might make her less or more liable to cancer?

It is now fair to say that a woman will herself determine to a large extent her risk of developing cancers of the breast and womb. The risk is almost certainly related to her sexual activity and to her childbearing activity.

If a woman starts collecting penalty points in childhood or soon after, the longer she lives the more chance

The disease which we call cancer is actually a large and very mixed group of diseases, each of which affects a different organ or tissue of the body. The one thing which they share in common is a wild, uncontrolled growth of the tissue, but the factors which set it off are quite different for each type of cancer.

We all inherit from our parents some degree of liability to particular types of cancer. It is as if each one of us starts life with a certain handicap. As a woman goes through life, her way of living adds extra penalty points so that her liability to one cancer or another tends to increase.

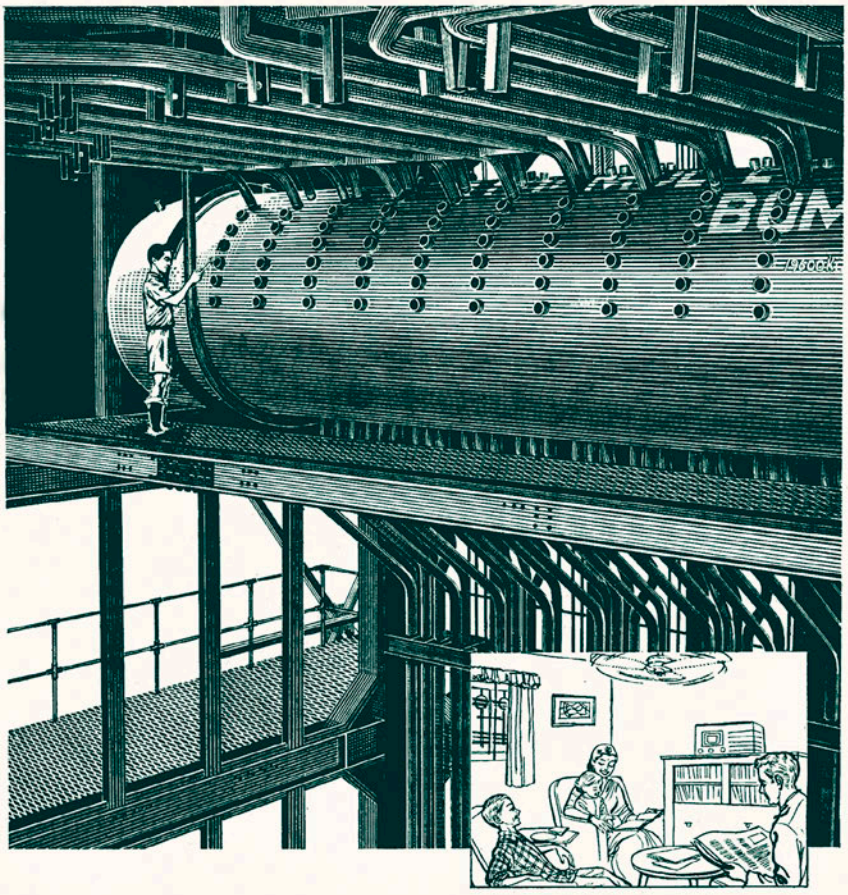
It is believed that about three-quarters of all types of cancer might possibly be prevented. We can recognise which ones they are because they are the types which vary widely in frequency between one country and another and this suggests that they are stimulated by "outside influences". This heading includes not only the air we breathe and the food we eat, but also the way that we use or misuse our bodies.

Cancer of the lung is an obvious example of those tumours which are stimulated by outside influences. Although a small proportion of today's cases may be triggered off by a person's occupation or by industrial pollution of the air, the vast majority are almost certainly stimulated by tobacco smoking. In a similar way, cancer of the digestive tract is probably provoked by certain agents in the diet, even if they have not been so clearly identified.

TATA ELECTRIC

Image courtesy Tata Archives

Vintage Advertisement



This means better living for the many

THIS great steam boiler will soon be working for the new Thermal Power Station at Trombay — helping to provide more people with the benefits of cheap electricity. The hydro-cum-thermal power provided by Trombay will be the cheapest in the whole of India.

Trombay will make its benefits apparent in offices, factories, homes and schools. More power for Industry, for air-conditioning and labour-saving devices in the home — more light to see by and more comfort for the many.

Trombay Thermal Power Station is one of the most modern in the world today and, with its two sets of generators, will produce 100,000 kilowatts of power.

Trombay was made possible through the efforts of enlightened Free Enterprise and is one more Tata project aimed at raising the standard of living in India.

trombay

Thermal Power Station

FREE ENTERPRISE DOES IT AGAIN

This advertisement will appear in the GENERAL PRESS in INDIA

JOB No. TS. 4295
Size : 11" x 3 cols.
November 1956

Prepared by :
J. Walter Thompson Company
(Eastern) Private Limited

Year 1956

Image courtesy Tata Archives

BUSINESS Brief

Guwahati's Pride–High Mast Flag Inaugurated

The high mast national flag was inaugurated by the Honourable CM of Assam at Guwahati. With a view to creating a place of pride and to honour the great sacrifices made by the citizens during the freedom movement, this project was proposed as part of the Guwahati Smart City. The special purpose vehicle Guwahati Smart City Limited was entrusted with the task of preparing the project document and supervise the implementation of the project. The 319.5 ft high monumental flag pole was installed in Gandhi Mandap.

TCE was signed as Consultant Partner for this project and is also a consultant for the Guwahati Smart City project. The flag pole is the highest in the country with respect to the average elevation of the city. Considering only the height of the flag pole, it is ranked 3rd highest in the country. The Guwahati Flag Pole in Gandhi Mandap is taller than Qutub Minar in New Delhi which is 239.5 ft.

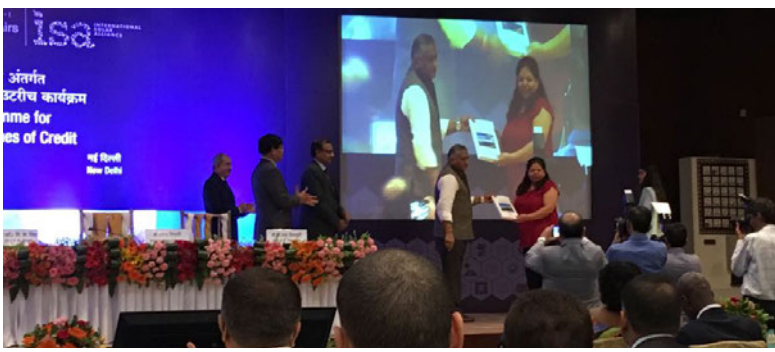
TCE showcases solar projects expertise at EXIM Bank-Govt. of India event

EXIM Bank of India, in collaboration with Ministry of External Affairs (MEA) and International Solar Alliance (ISA) had organised a "Business Outreach Programme for Solar Projects under India's Line of Credits (LOCs)" at the Pravasi Bharatiya Kendra, Chanakyapuri in New Delhi.

TCE was invited to showcase its expertise in designing solar projects overseas and its recent experience in Project Preparation Facility (PPF) for three solar projects to be implemented by Government of Seychelles (GOS) under the ISA framework.

Mr. Suman Dey (PM for the Project), Ms. D. R. Shanthi, Group sector head–Renewable and Mr. Ravi Bassi from the Business Development team attended the event.

The DPR report prepared by TCE was presented by the MEA, Dr. (Col.) V. K. Singh to the Embassy representative of Seychelles. It was a moment of great pride for TCE.



TCE presentation at Aveva World Conference India

Amit Sharma, MD, TCE presented an execution roadmap for strategy and implementation of digital transformation for engineering process and plant life cycle management. The presentation was at the Aveva World Conference, India. He elaborated the nuances of Industry 4.0 solutions for data and analytics driven growth and plant efficiencies.

TCE presented best practices for Sustainable Urban Infrastructure at 2nd International Conference of AWWA

American Water Works Association (AWWA India) organised its second international conference titled "AICE'18–TOTAL WATER SOLUTIONS" in Hyderabad. The aim was to connect policy makers, utilities, practicing engineers and academicians to discuss innovative solutions for the challenges facing the water industry. Mr Dilip Sonwane delivered a talk on Best Practices for Sustainable Urban Infrastructure covering water supply, sewerage, storm water drainage and solid waste management. The development of infrastructure in India since last three decades was discussed along with Government initiatives to address the infrastructure gaps for growing urban population in the country. The Govt. initiatives, JNNURM/ATAL/Smart Cities funds and development of norms/guideline/best practices were presented. The guidelines available in CPHEEO Manual, MoUD norms on Smart Cities and best practices at global level along with Indian cities like GIFT, BAPL, DMICDC were discussed.

TCE representation at IIOT Round table discussion

Analytics India 2018 was organised by First View at Bengaluru. The theme for this seminar was data analytics for renewable projects. Mr. Himanshu Joshi, TCE and Ms. D.R. Shanthi represented TCE in the discussion. Like other industry sectors, Renewable Energy (RE) presents its own set of challenges and opportunities which can be solved using data analytics.

While there are a number of analytics firms out there, limited success is being witnessed as the relevant domain expertise is missing; this is core to TCE's hypothesis in creation of business line on Industry 4.0. The panel discussion was a good opportunity to spread awareness on TCE's value proposition in this space which would be crucial in client/pilot acquisition in this initial phase.

TCE Triumphs

TCE recognised at JRD QV 2018 Tata Business Excellence Awards 2018

The genesis of the Business Excellence movement within the Tata Group lies in JRD Tata's strong drive to achieve excellence in quality. Tata Business Excellence Model (TBEM) has been driving the Tata companies to benchmark themselves against leading global companies and strive for excellence in their respective sectors.

In recognition of the group companies' achievement in business excellence journey measured through TBEM, JRD Quality Value (QV) award function is held on July 29 every year, JRD Tata's birth anniversary.

JRD QV 2018 added two special moments especially for TCE. The first was the recognition for TCE on having crossed the 500 mark score in Business Excellence. The second was Ratan Tata, Chairman Emeritus, Tata Sons graced this function and TCE received the award in his presence.

Seen in the picture (L to R): Mr S Padmanabhan, Chairman, TCE, Ms Garima Bansal (TCE, Mumbai), Ms D Geethalakshmi (TCE, Chennai), Mr N Chandrashekar, Chairman, Tata Sons Ltd, Mr Ratan Tata, Chairman, Tata Trusts, Mr Amit Sharma, MD, TCE, Mr K Ramesh, Head, PMC BU, Mr S Vidyanand, Head Energy BU, Mr Aditya Kumar Mishra, Head Business Excellence and Strategy.

TCE Buzz

TCE Day

The TCE Annual Day is a much awaited event for all TCE-ites. The company recognises employees in various categories. The highlight of the event is a showcase of the TCE talent in various performing arts.

1 Mumbai

2 Delhi


TATA CONSULTING ENGINEERS LIMITED
Presents


ONE TATA ONE TCE


TATA CONSULTING ENGINEERS LIMITED
ONE TATA ONE TCE

3 Pune

4 Jamshedpur

5 Kolkata

6 Bengaluru

PROJECT Patchwork

PUNE

Residential project at Guntur, Andhra Pradesh

This residential project near Vijayawada and Amaravati, the new capital region of Andhra Pradesh, built in over 96 acres of land, reflects the aspirations of the global citizen and brings it within every home owner's reach. Along with the globally inspiring Venetian Architecture, the space is futuristic in design and architecture and is the future of living spaces in India. Climate-friendly strategies for hot and humid environs have been worked out to give a natural and colourful lifestyle. 1st Phase consists of double basements, 8 nos. of 31 storey high-rise building consisting of apartments and sky villas are planned. Project consists of 86% of greenery/landscape and provides many amenities.

TCE has provided services in Design Management, Value Engineering, Procurement, Project Management, Inspection, Commissioning, Hand over and Closure.

Indian Institute of Management, Raipur, Chhattisgarh

TCE has been associated with yet another educational project, IIM Raipur facility. The project comprises of admin, and faculty block, hostel blocks, shopping area, staff housing, sewage treatment plant, water treatment plants, sports block, etc. TCE is working in this project in the capacity of PMC. The detailed scope of TCE includes supervision of construction, testing and commissioning of all activities of civil, mechanical, electrical & electronics nature, certification of monthly running bills of sub contractors, managing planning functions and quality control of the project.

South Asian University Campus, New Delhi

It is an international university being developed at Maidan Garhi in New Delhi. The project has been designed to achieve Five Star rating for Green Building Design. TCE provided Design Review, Material Management, Claim Management, Quality & Safety Management, Construction Management and Overall Project Management Consultancy Services including Defects Liability Period for all the packages in the scope. This project is an international university (SAARC Countries) and is Five Star rated Green Building Project. The project has received GRIHA award for the same.

(GRIHA is an acronym for Green Rating for Integrated Habitat Assessment).

Beautification of Aerocity, New Delhi

TCE has been engaged for the beautification of aerocity comprising of a luxurious commercial space of about 80,000 sq ft. The scope of work includes beautification of tunnels connecting terminals. Every single aspect of the project was with respect to beautification and it had to be executed without compromising on functionality and operations. It includes special features such as misting system for temperature control, sculptural flower pavilion, and core pedestrian plaza with a rainforest garden and automatic landscape irrigation system for 55 acres.

TCE provided PMC services for the hospitality district (aerocity) and accesses of airport. Aerocity has been developed as the largest hospitality hub. It hosts 11 hotels with a combined shopping mall, office and entertainment complex located in the centre of the area.

MUMBAI

Ambient Air Quality Monitoring System (AAQMS), Surat, Gujarat

TCE is appointed as a consultant for Feasibility Report, DPR, tender and tender evaluation for Surat Smart City project. Ambient Air Quality Monitoring System (AAQMS) for monitoring air quality parameters such as SOx, NOx, CO, CO_2, PM2.5 and PM10 are designed by TCE as per CPCB and USEPA norms. AAQMS proposed at 7 locations is with GSM/ GPRS based communication for transmitting real time air quality parameters to central location. All these air quality parameters are monitored from the Central Command Control Centre, the nerve centre of a smart city and LED display installed to indicate air quality parameters in real time.

Proposed office building at Chakan, Pune

TCE has been appointed as Detail Engineering Consultant & PMC for Civil-Structural works and Electrical, Mechanical utilities for a corporate office building of approximately 2,400 employees at Chakan, Pune of this project. The vision of the project is to build a facility which will be a global icon, cost competitive and sustainable, having optimised overall life cycle cost. The unique feature of this project is state-of-the-art radiant cooling system. Radiant cooling offers lower lifecycle cost compared to conventional systems due to lower energy consumption and maintenance costs. Radiant Cooling System is implemented for the entire building as a HVAC system.

TCE is involved in detailed design engineering, procurement and supervision of structural, MEP utilities, suitable for RC pipes to be embedded in the RCC slab.

DELHI

Consultancy services for construction of Technology Centres, MSME

Technology Centres, a project partially funded by World Bank under the aegis of Ministry of Micro, Small and Medium Enterprises (MSME) of Govt. of India, is an important project for skill development in India. The technology centres seek to enhance the technical skills of youth at different levels to improve career prospects and find employment. TCE is appointed as a consultant for providing construction management services for the construction of 15 new Technology Centres - Bhiwadi, Durg, Bengaluru, Rohtak, Pudi (Visakhapatnam), Sitarganj, Puducherry, Baddi, Bhopal, Kanpur, Imphal, Kochi-Ernakulam, Patna, Chennai, Greater Noida and upgradation of 3 existing Technology Centres (TCs) viz. Bhubaneshwar, Mumbai & Aurangabad from inception to final closure of the construction.

TCEndeavour
Care-Share-Restore

One Tata–Kerala Flood Relief Initiative

The first batch of Tata Volunteers set out immediately after the floods toward the end of August. TCE's Santhosh along with volunteers from other Tata companies and the Tata Disaster Response Project Managers were on ground zero in the most affected regions - Wayanad, Idukki (Kerala) & Kodagu (Karnataka). For TCE's M Santhosh, this was an exercise into the unknown, as he trekked through difficult terrain to distribute relief materials, take a survey of the damage for future planning, etc. Presently, he is back to the comforts of his home and work. He had this to say about the experience.

The floods in Kerala was the worst of its kind with a death toll of about 417 people, 8.69 lakh people in 2,287 relief camps. Taking a One Tata approach, all Tata companies pooled in resources and volunteers to carry out relief and rehabilitation work in Kodagu, Karnataka and Kerala. TCE contributed to the relief measures with a cash donation, employees volunteered a day's salary to the cause and volunteers pitched in during the relief phase. As the Disaster Management operations move to the rehabilitation phase, TCE will continue to contribute by providing required engineering services.

"Volunteering with The Disaster Response team was one of the best moments of my life. Being able to reach out where nobody cares to go, I went into distant tribal settlements navigating hours through dense forest with a slight fear in me with no knowledge of how they would react to us as no one had reached them for over a week; it changed the way my thoughts are of such settlements now. I think we have many humane values that we could learn from them–Fairness, equability, lack of slightest greed, level headedness, happiness to help others with whatever they have and co-exist. To see the smile and sense of relief when we bring help to isolated tribal settlements in deep forest area is a life time enriching experience in the true sense."

- Santhosh M.

Health Camp in Khoripada

TCE's intervention in the tribal hamlet of Khoripada since 2013 is now bearing fruit to the inhabitants. With the water-starved hamlet turning water positive with water infrastructure solutions such as rainwater harvesting, farm ponds, solar-powered drip irrigation, there is tremendous hope for the future. The floriculture and horticulture programs are also maturing and beginning to yield income for the inhabitants. Presently, TCE introduced a health screening program to improve the well-being of the community. Health care workers at the village level have been trained. The first health camp conducted covered 190 inhabitants with screening done for diabetes, malnutrition among children, cataract, tuberculosis and water borne diseases. TCE plans to conduct 4 camps in a year for preventive and curative healthcare in the village.

191 people-children screened

School on Wheels Program

TCE established a fixed learning centre in response to the needs of the migratory workers community near Pune. This centre will provide bridge schooling to about 85 children including remedial classes to those already enrolled in mainstream schools. The centre includes a crèche so that older children responsible for their younger siblings have access to basic education. The School on Wheels bus continues to provide schooling at three sites and mobile library. The bus will cover 75 students a day with bridge school education.

Career for night school students

TCE launched a vocational skill building program for students attending night schools. This group of students are a self-motivated lot, who believe in improving their prospects through continuous education. TCE is providing them with job-oriented courses such as IT literacy programs so that they become employable and can earn a better income than their current jobs in the unorganised sector. In the last quarter the program enrolled 25 students for job oriented courses.

TATA engage
be the change

450 Volunteers
+7806 Beneficiaries
90 Programs across TCE
3254 Person Hours

MUMBAI AND PUNE

TVW10 BEST VOLUNTEERING LOCATIONS FOR FY2018 AWARD GOES TO MUMBAI & PUNE

NEW DELHI

EDUCATION AND SKILL DEVELOPMENT IN COMMUNITY

TATA VOLUNTEERING WEEK 10

MUMBAI

BIODIVERSITY PROGRAM

BENGALURU

CAREER COUNSELLING

JAMSHEDPUR

AWARENESS SESSION ON WASTE FOR FOOD VENDORS

KOLKATA

VISIT TO AN ORPHANAGE

PUNE

ROAD SAFETY CAMPAIGN

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Engineering A Better Tomorrow