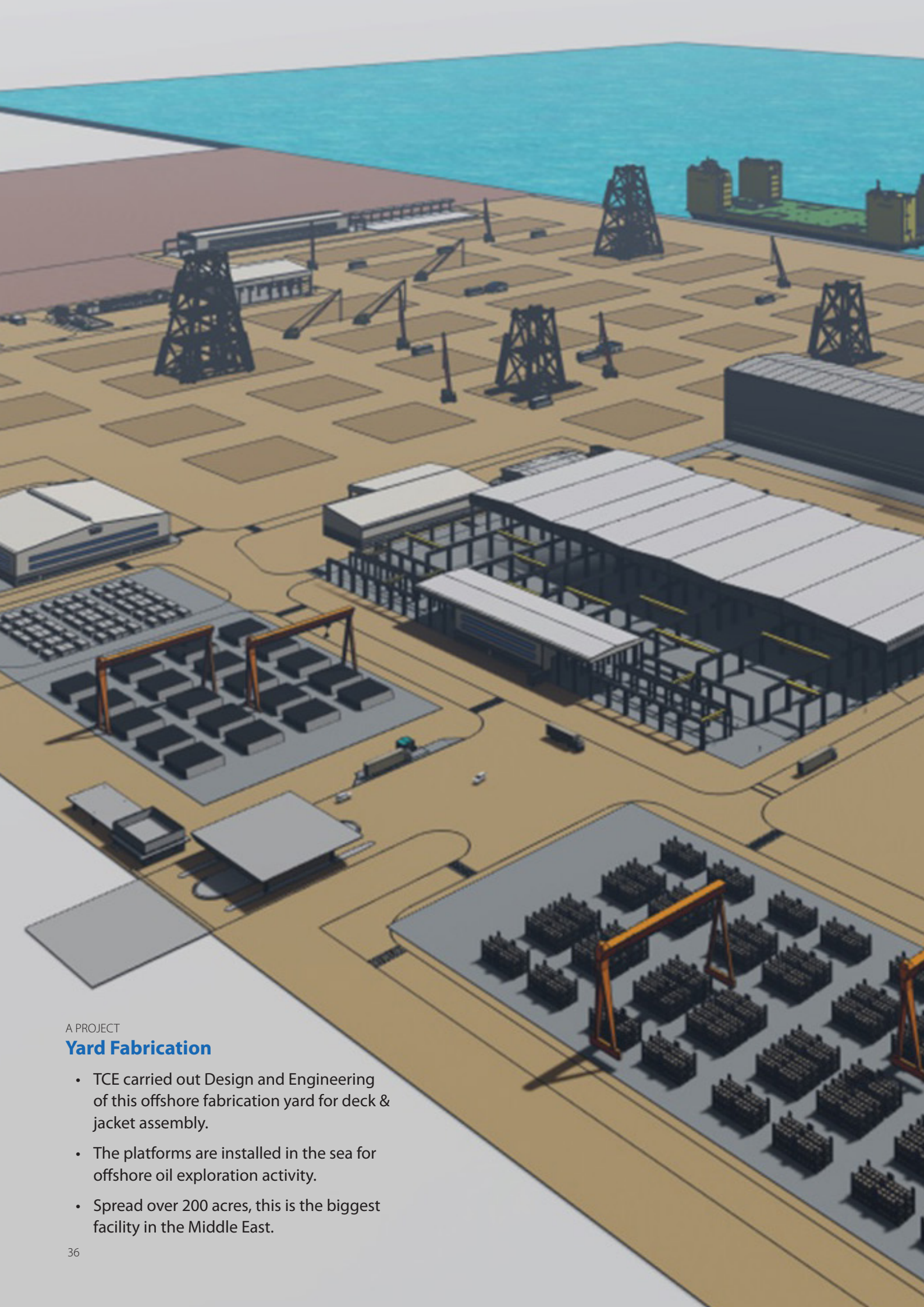


A PROJECT

Yard Fabrication

- TCE carried out Design and Engineering of this offshore fabrication yard for deck & jacket assembly.
- The platforms are installed in the sea for offshore oil exploration activity.
- Spread over 200 acres, this is the biggest facility in the Middle East.

12%
CAGR growth in 3 years

38%
Contribution to Order Book

34%
Contribution to Revenue

Infrastructure

Business Review

- Water
- Wastewater & Sewage
- Sustainable Infrastructure
- Urban Development
- Buildings
- Industrial & Manufacturing Facilities
- Ports & Transportation

Infrastructure Business Review

Infrastructure Business Unit of Tata Consulting Engineers is a part of a nation's everyday life. What goes behind it is what we strive to do tirelessly – we improve the quality of life of the ordinary person on the street. To be able to do this, we work with public and private sector organisations, government and local bodies and international funding institutions. We plan and design townships and cities, waterways and water distribution, transport and the environment. TCE has successfully managed complex engineering projects across the infrastructure spectrum, securing a high degree of differentiation in building large-scale infrastructure facilities.

14
Smart Cities as Lead Consultants

50
AMRUT Cities as Lead Consultant

2
Smart Port Cities

Areas of Expertise:

Water and Environment:

- Providing water, wastewater and sewage treatment systems, among others, to assist authorities in water conservation and leakage management
- Offering geotechnical investigations and underground design innovations to industries
- Managing environment improvement projects such as heritage conservation, rainwater harvesting, pollution control, biodiversity conservation, green building solutions

Built environment:

- Building a city within a city with complete planning, design and commissioning
- Providing engineering solution for large capacity industrial units and manufacturing facilities
- Developing smart cities that sustainably use resources and catalyse economic growth

Transportation

- Creating standalone urban transport infrastructure, including airports, rail systems and ports planning, development and commissioning; as well as connecting tech cities and large SEZ spaces

Key Achievements:

- Market leader in the Smart City development initiative.
- One of the top three infrastructure consulting companies in India.
- Bagged Agra Metro Rail project.

Key Trends Shaping the Industry:

- With increasing focus of the government on the need for infrastructure, the public sector has begun to reassert its role and is aggressively pursuing the enhancement of this sector.
- With continued focus on Urbanisation, SMART Cities, AMRUT cities, it is expected that many more such cities and related infrstructure will be launched in the coming years.
- With sustainability becoming more relevant and awareness about global warming and climate change increasing, the need for sustainable infrastructure both new and upgrade of existing is also an increasing trend.
- Due to extreme weather events and high level of water stress, there is a growing demand around identifying alternate water sources, efficient distribution of quality water in towns and cities.
- The degree of privatisation in the water industry will expand, with a wide range of opportunities, for smart water management, alternative water sources (desalinisation) market and water reuse/ recycling, along with irrigation and rivers.
- As the population growth surges forward, hand in hand with urbanisation and industrialisation, more efficient transportation services are in high demand, particularly mass commuting services both within and between cities.
- Urban rail services (metro/mono), high-speed rail and super-fast hyperloop train technologies, as well as fossil fuels alternatives to power transportation, are areas of opportunities.

The infrastructure sector will continue to evolve, integrating various industries, rather than simply focusing on installation and services. To stay relevant amid a rapidly changing world, TCE will leverage its innovation excellence and project expertise to scale new heights and establish enduring relationships.

Going forward, TCE will participate in the urban rejuvenation programme; reinforce the water management vertical, expand presence in metro rail services, ports, river interlinkages and transportation; and explore partnership / collaboration opportunities for high- speed rail networks.

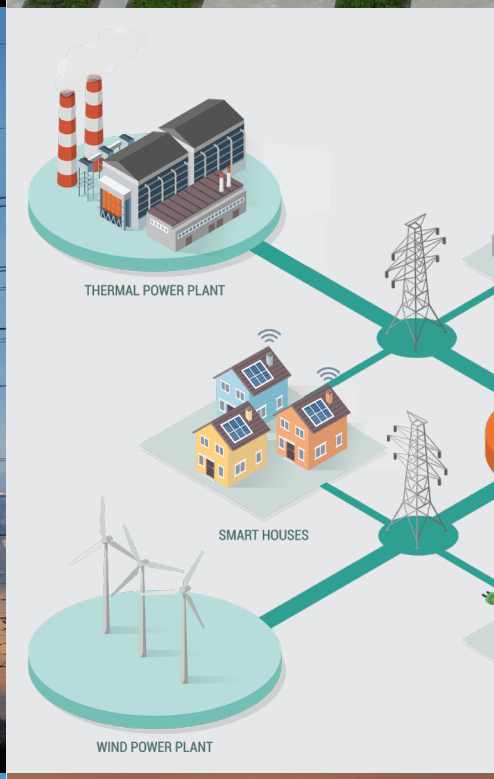
A PROJECT

Water Supply Facilities to 110 Villages in Karnataka:

With the inclusion of 110 villages, the need for augmentation of existing water supply arrangement was urgently felt. It was also considered that bringing an additional quantity of 775 MLD water from the river project is likely to take a long time. Hence this project will utilise the savings of water obtained by the reduction of Unaccounted for Water (UFW) in the core area. However, the system was designed such that it can be integrated with the river water at a later date.

The UFW work included detail design of 26 DMAs spread over 22 Square kilometres in the project area, laying jointing of 400 kilometres of pipelines, service connections for 43000 houses, domestic water meters for 36000 homes and installation of 80 Electro Magnetic Flowmeters.

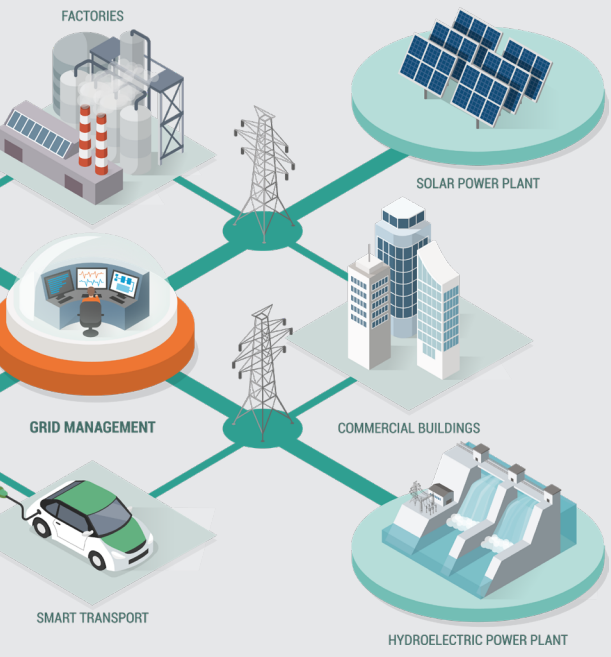
Up to 31st March 2020 pipelines have been laid in a length of 2660 kilometres and construction of Ground Level Reservoirs (GLRs) and Overhead Tanks (OHTs) are in advance stage.


THERMAL POWER PLANT
SMART HOUSES
WIND POWER PLANT

33%
Growth over previous year

28%
Contribution to Order Book

26%
Contribution to Revenue



Power

Business Review

- Renewable
- Hydro
- Nuclear
- Thermal
- Transmission & Distribution

Power Business Review

The Power Business of TCE is amongst the top two players in the market providing value-added concept to commissioning and life cycle management services. With decades of experience in Power Generation, Transmission and Distribution, the business is geared up to deliver emerging customer aspirations. Having made its mark in engineering and project management of various thermal power plants across the global, TCE's Power Business has stayed relevant by adapting to the changing needs of more greener and environmental-friendly power plants. The business unit offers innovative patent pending solutions to ensure a balance between the need of the customer and the environment.

Globally Engineered Till Date:

120 GW+
Thermal & Combined Cycle Power Plants

37 GW+
Renewable and Large Hydro Power Plants

7 GW+
Nuclear Power Plants

Key Differentiators:

- Proven our mettle in the Power sector and have till date contributed to the generation of about 164 GW+ of power generation.
- Capabilities in all forms of renewable power - roof top solar, floating solar, to CSP and large ground mounted mega solar projects, onshore and offshore wind, energy storage and hybrid plants, and waste to energy through gasification, combustion and incineration technologies
- Market leader in Nuclear power plant engineering with more than 85% market share in India.
- One of the few empanelled consultants by Central Energy Regulatory Commission (CERC).
- Provide comprehensive solutions to meet Environmental & emission/pollution norms and Plant/Energy efficiency improvement.
- Rich experience in planning, designing, implementation, Renovation & Modernisation and plant review including plant safety review of all types of power plants.

Service Offerings:

- **Renewable Power:** Hydro, Solar, wind, biomass, hybrid, battery energy storage and waste-to-energy.
- **Hydro Power:** Large Hydro, Pumped Storage Projects, Renovation and Modernisation, and Dam Rehabilitation
- **Nuclear Power:** Power generation, fuel fabrication, fuel reprocessing, waste disposal.
- **Thermal Power:** Coal, gas, captive and cogeneration.
- **Opex Services:** Plant renovation, modernisation and performance improvement projects and various Industry 4.0 solutions in existing facilities.
- **T&D:** Transmission lines, substation, distribution and system studies.

Key Trends Shaping the Industry:

- Sustainable Development Goals are driving Energy Transition across sectors with a focus on clean and green energy. Renewable growth focus across geographies. Floating solar, hybrid solar and wind with energy storage opportunities being realised. Energy neutral infrastructure, waste to energy and offshore wind expected to emerge in coming years in India.
- Flexibilisation of thermal plants, Tariff based competitive bidding for Round the Clock (RTC) power with Variable Renewable Energy (VRE) bundled with underutilised thermal plants along with Green Term Ahead Market that allows renewable buyers and sellers to trade without PPAs will govern the dynamics of power industry going forward.
- Nuclear sector upbeat with ten units of 700MW PHWRs in fleet mode along with bulk imported reactors based on LWR and EPR technologies set to realise soon. Kaiga 2x700MW Unit 5&6 tender expected in 2020. Seismic Margin Assessments for existing plants offer opex opportunities. Overseas opportunities with ITER, Korean and European majors offer international growth unexplored thus far.
- Hydro plants up to 25MW capacity are considered as renewables and are eligible for similar benefits. Pumped Storage Schemes (PSPs) receiving huge attention due to simplicity, flexibility and quick turnaround to replace VRE. Dam Rehabilitation Phase II and III for improvement of 700 dams with a budget of 10,000cr planned to be completed in this decade.
- No new utility-scale thermal plants expected and focus in the sector is on flexible power and environmental upgrades. New build opportunities are emerging in CIS countries as well as in Asia Pacific regions.
- Transmission and distribution infrastructure upgrades in India receiving due attention. Higher investments expected in transmission infrastructure, HVDC and FACTS, smart grids, distribution automation, load forecasting, microgrids, WAMS etc. The Asia Pacific and MENA regions offer international opportunities.
- Government of India intends to reduce AT&C losses through privatisation of DISCOMs. Open access in distribution, regular tariff revisions, extensive smart metering, services on digital platforms, direct beneficiary transfer mechanisms to bring in much relief and improve the efficiency of the distribution sector.
- Distribution system enhancement will bring in new players in DISCOMs as well as new opportunities in the areas of due diligence, AT&C loss reduction, infrastructure upgrades, energy storage, smart grids, smart meters and grid automation.
- OEMs and EPCs focus on standardisation, modularisation and reuse to gain competitive advantage and reduce time to market.
- In response to the emerging trends, TCE is stepping up its core service offerings in the Power business, reinforcing its strengths and judiciously pursuing the opportunities presented by Energy Transition and the Industry 4.0 revolution.
- Power Business is focusing on digitalisation, IIOT solutions and opex services for plant upgrades and asset lifecycle management. Focus areas for Point solutions include monitoring and performance optimisation of boilers, condensers, critical pumps and other equipment, plant chemistry, coal inventory, the health of switchgear and transformers, solar power forecasting, etc. Capacity building initiatives on data sciences, machine learning, and artificial intelligence are in progress.

A PROJECT

International Thermonuclear Experimental Reactor (ITER)

ITER nuclear fusion research and engineering megaproject is the world's largest magnetic confinement plasma physics experiment. TCE has been involved in the project since inception.

We provided the detailed engineering of the Cooling Water System for the project and were a part of the conceptual and preliminary design phases which formed the foundation for the final design.

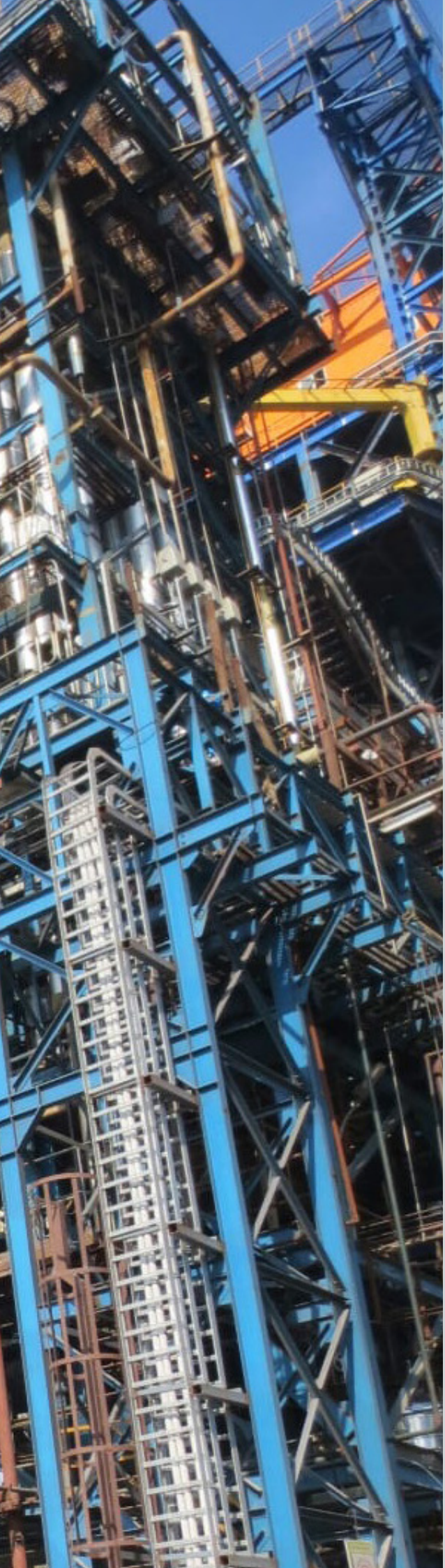
Currently, our 50+ engineers from different specialisation are working at the site to help ITER deliver the Engineering Work Packages to the Construction Team for Erection. We are also supporting ITER through offshore projects being executed by the delivery teams in India

A PROJECT

Coke Dry Quenching Plant

TCE masterminded the complete project cycle from concept to commissioning of the Coke Dry Quenching (CDQ) plant for Coke Oven Batteries 10 & 11 of Tata Steel at Jamshedpur. The CDQ plant was mandatory to meet environmental norms to operate the coke oven. The plant is designed with Best Available Technology (BAT) from globally renowned suppliers and contractors and is able to reduce coke dust emission, eliminate the wastage of water as steam in the wet quenching process and use 80% of the sensible heat of the circulating cooling gas to generate steam in waste heat recovery boilers for use in other processes and power generation.

TCE also carried steam dynamics study for boosting the power generation capacity by 10MW using additional steam from existing CDQ plant through PRV based cascade control with steam from the new boilers, resulting in considerable value addition to the project viability and environment. The plant retrofits into the confined space of the existing plant using various innovative schemes for enabling works to create working space above and below ground. The engineering was carried out through extensive use of smart engineering tools like 3D integrated approach with a common digital model of the entire plant by merging the engineering output from various global suppliers/ contractors to create a seamless product for safe and time bound execution. Use of 4D construction simulation helped in meeting the challenges of execution in deep brownfield conditions by proper sequencing of activities and support logistics.



16%
CAGR growth in 3 years

34%
Contribution to Order Book

40%
Contribution to Revenue

Resources

Business Review

1. HYDROCARBONS & CHEMICALS

- Oil & Gas
- Petrochemucals & Refineries
- Food & Pharma
- Speciality Chemicals

2. METALS & MINING

- Mining, Geology & Beneficiation
- Ferrous & Non Ferrous Value Chain
- Material Handling
- Enabling & BOP Related Services

Resources Business Review

TCE's Resources sector has a track record of providing comprehensive engineering services from concept to commissioning. This translates to consistently delivering smart engineering solutions for its customers across the value chain.

The Resources business has two sub-sectors namely: Hydrocarbons & Chemicals and Mining & Metallurgy.

21%
MMBU Contribution to Revenue

19%
HCBU Contribution to Revenue

Hydrocarbon and Chemicals

Areas of expertise

Under this sector, TCE provides comprehensive EPCM services to clients in the fields of:

- Oil, Gas and Refineries
- Petrochemicals
- Fertilizers
- Chemicals & Specialty Chemicals
- Food & Pharmaceuticals
- Glass, Cement and Allied Industries

Key Trends Shaping the Industry

This sector envisages growth opportunities in the Indian markets fueled by higher consumption associated with rising standards of living and rapid urbanisation. Growing realisation about the risk associated with the large concentration of Chemicals manufacturing in one country, will present opportunities as many large MNCs may plan to de-risk by diversifying their expansion locations.

Large investments are planned in the refinery sector, petrochemicals, LNG regasification terminals and specialty chemical sectors.

The Government of India aims to increase the share of natural gas in the country's energy mix from 6% to 15% by 2030. Government also has plans for creating National Gas Grid which will require installation of additional Gas Pipeline Infrastructure.

There is a thrust to utilise indigenously available Coal for manufacturing liquid fuel and Chemicals using Coal Gasification Technology. This will help in reducing country's Crude Import bill.

India's refining capacity is planned to increase from 230 MMTPA to 440 MMTPA by 2030. All the refineries are now integrated with downstream petrochemical complexes to improve ROI and also to cater to the increasing demands of plastic polymers in the domestic market. Apart from the CAPEX projects in the domestic market, we expect to have good opportunities in the global market for the following types of projects, to meet the need of sustainability and tighter emission controls:

- Plant upgrades, automation and revamps
- Asset integrity management
- Energy Optimisation Studies
- Efficiency improvement & debottlenecking

We see opportunities in bio ethanol and bio CNG investments in India.

The sector is well poised to leverage these opportunities with a healthy mix of domestic and international clients. This strategy is expected to help the sector maintain its growth momentum in the coming years. FY 2019-20 saw the strengthening of TCE's relationships with marquee clients and more such long-term engagements are in the pipeline.

Mining and Metals

Areas of Expertise

This sector continues to deliver creative solutions to customers worldwide across the value chain of:

- Iron & Steel
- Mining & Beneficiation of Ferrous & Non-ferrous
- Smelting and Processing

The focus areas in the mining sector are:

- Geology and Mine Planning
- Mineral Processing and beneficiation
- Material Handling.

Key Trends Shaping the Industry

The Mining & Metals (M&M) industry is facing new challenges. In the past, the mining sector simply had to plan their production on the basis of "highest volumes at the lowest production cost". Today, they have to be not only profitable and productive but also sustainable under new & upcoming regulations. The Mining and Metals (M&M) sector is returning to growth, but companies face a transformed competitive and operating landscape.

Key drivers for the next decade for this sector are the following :

- Import substitution strategy (Resource Security) with redefined globalisation
- Climate change and Environmental sustainability without compromising competitiveness
- Energy transition and Net-Zero based redesign approach
- Adopting Controlled-Tower methodology in new normal conditions
- Innovate and integrate various functions to bring greater capital efficiency
- Adoption of Industry 4.0/5.0, digitalisation and remote controlled center for plant operations

Our areas of expertise are:

- Concept to Commissioning Services with interface management
- Portfolio Management Services
- Process Engineering & Interface Management
- Layout & Logistics
- Sustainability & Environmental Engineering
- Waste Management
- Asset Integrity Management

M&M BU has already built its strength both in CAPEX and OPEX areas for the Iron & Steel Industry by providing services in building some of the largest plants in Iron & Steel making and Finishing areas as well as rebuilding of the existing world in close coordination with world reputed technology suppliers. For the last 5 years, the diversification has also resulted in customer orientation in providing services related to productivity improvement, operational assistance and asset integrity management throughout the life cycle of the assets. In non- ferrous area, the sector strategy has resulted in innovative solutions to the reputed customers in green metal entire value chain. The experiences gained in the OPEX services has now been expanded to the non-ferrous areas to meet the present business objective. A separate dedicated team is are working on identified initiatives like Energy Transition, Clean technology, High value product differentiation and Digital point solution to identified Industrial problems along with partners.

The sector approach will be towards reskilling of entire work force to orient in changing Industry need and the drivers enforcing the changes - Re–envisioning talent management in the digital age.

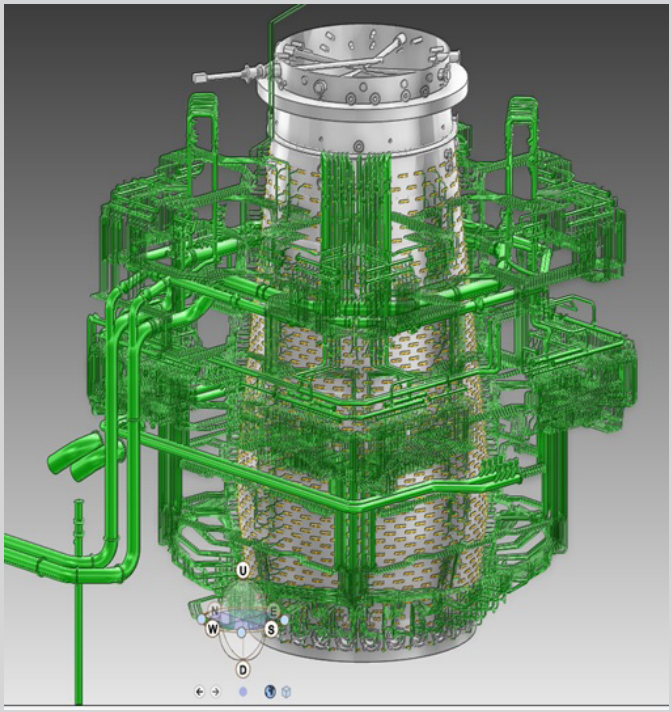
A PROJECT

3D Modeling of Critical Utility System

Revamping of the Blast Furnace was planned by the plant owner, but new engineering was hindered by lack of "As-Built" information of the major parts and components of the Blast Furnace. TCE carried out this assignment for the critical utility systems to create the digital asset through 3D laser scanning and subsequent allocation of appropriate specifications for the various utility pipes from existing documents.

The final engineered 3D model was further used for extracting isometrics & other 2D drawings and has become a part of the digital asset of the plant which can be integrated with other parts being developed.

Developed intelligent 3D model has been used for further engineering and modification / replacement of pipe in the required location without clashing with existing, to avoid interdisciplinary clashes, proper engineering and planning for adjacent facilities such as changing of Bustle Main Pipe, changing of cooling water return gutters etc., and creating cost savings by allowing as-built design services



A PROJECT

Construction Supervision of Hydrogenetion Plant

10,000 Sqm brownfield project comprising of Process Plant Building, Tank Farm, FGS Warehouse, Pipe Rack, Utility Building, Hydrogen Unloading Area, Cooling Tower, Chillers, Roads and Other Infrastructure.

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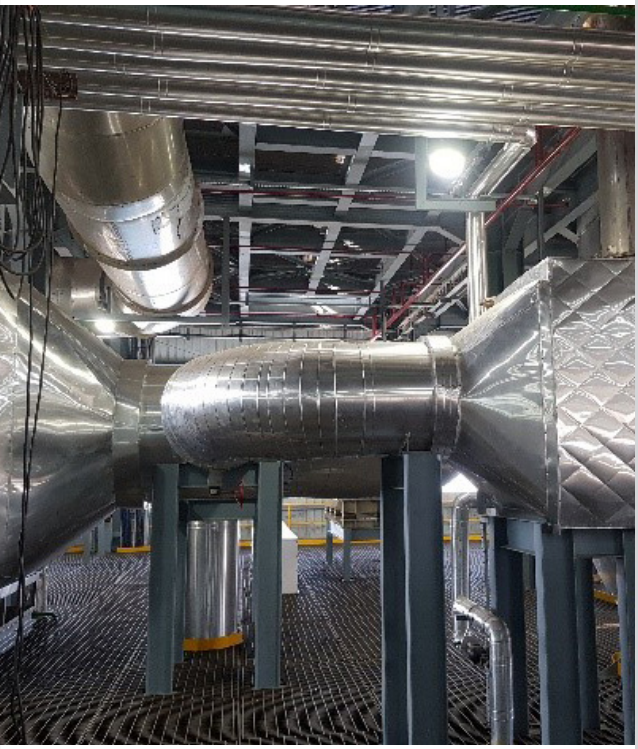


Project Management

Business Review

- Project Management
- Engineering Review
- Construction Management/Supervision
- Program Management
- Interface Management
- Specialised Services
- Quality & Safety Audits
- Outage Management

Project Management Business Review

The Project Management service offering serves as the onsite execution partner across our sectors - infrastructure, power and resources. The offerings span EPCM services, project management, commissioning support, engineering programme management and planning, and quality, inspection and expediting. We have expertise ranging from architectural engineering, basic engineering, detailed engineering, project management and construction management. We take our holistic solutions a step further by extending our services through the entire asset life-cycle by offering opex services management.

From the simplest of projects to the most complex such as extensive nuclear energy facilities, we have proved our might as the country's top-notch PMC service providers. We have diverse capabilities endorsed with high ethical practices and international standards in safety and quality.

130+
Sites in India and Overseas

990
Engineers on Site

Key Market Trends:

Investments and growth across key sectors where TCE is present in, such as, infrastructure, minerals and metallurgy, chemicals and hydrocarbons, and power, promises growth opportunities for the PMBU. Each of these sectors are integral to the nation's economic progress and TCE's PMBU a lead player in India is well positioned to leverage its competitive strengths

With Government's focus on Metros, High-Speed Rails, Smart Cities, Water for all by 2022-23, Investments in logistics and manufacturing shifting base to India will provide good project management avenues. The power sector is also projected to increase the installed capacity from 346 to 619 GW by 2025 requiring Transmission lines /smart grids to the tune of150,000 KM another area of strength for TCE.

TCE has invested heavily in digital engineering tools to serve the requirements of clients adopting Industry 4.0 technologies. Construction management services can provide tremendous value additions and cost efficiencies through digitalisation. TCE's focus will be on digitalisation using 3D-5D technologies. This will help critical decision-making in a simulated environment and increase construction efficiencies.

With 130+ Sites in India and overseas TCE continues to adopt new technologies and work with partners to leverage capabilities and provide value to customers. Moving in this direction, smart construction management practices combining digital tools and engineering expertise is the unique value proposition that TCE has to offer its customers.

A PROJECT

Regional Office of one of India's Largest IT Companies

This IT/ITES business park spread over 48 acres has the potential to house 60,000 seats. The first phase of development consisted of 2.85Mn sft of FAR area that houses 33000 seats, a Data Center along with 3 level basement parking and connected amenities.

TCE was appointed as the PMC to maintain Contract administration & variation, Time management, EHS & Quality Management for the completion of 5 Blocks including Data centre, utilities, fit out, MEP, façade & landscaping.

This project has been awarded the prestigious Platinum LEED rating. Another highlight of the project is the use of technologies like Under Floor Air Distribution System. Phase-I is approaching completion and our team ensured timeline, budget & quality of construction all exceed expectations.

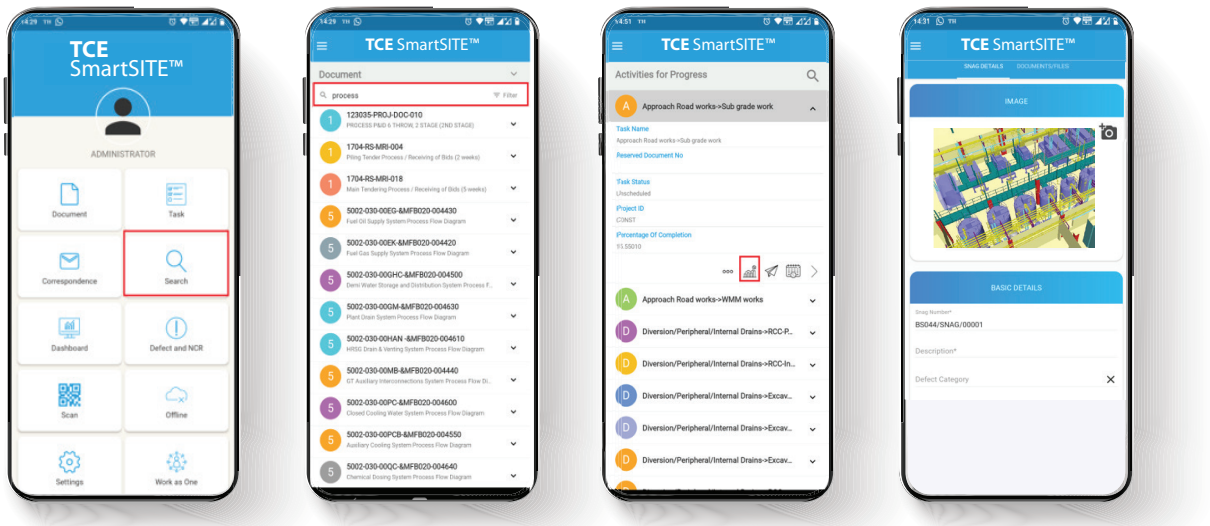
TCE Smart Site App

At TCE, we promote the use of smart project management applications that help reduce paper work and provide live dashboards.

The TCE SmartSITE™ App helps manage and track engineering drawings and documents across their lifecycle. It brings all stakeholders together on the same platform, having built-in quality management processes and provides the most up-to-date information with complete traceability.

The app also allows digital collaboration through electronic reviews, comments, approvals, RFI's, correspondences and transmittals and ensures better visibility through real-time dashboard and reports.

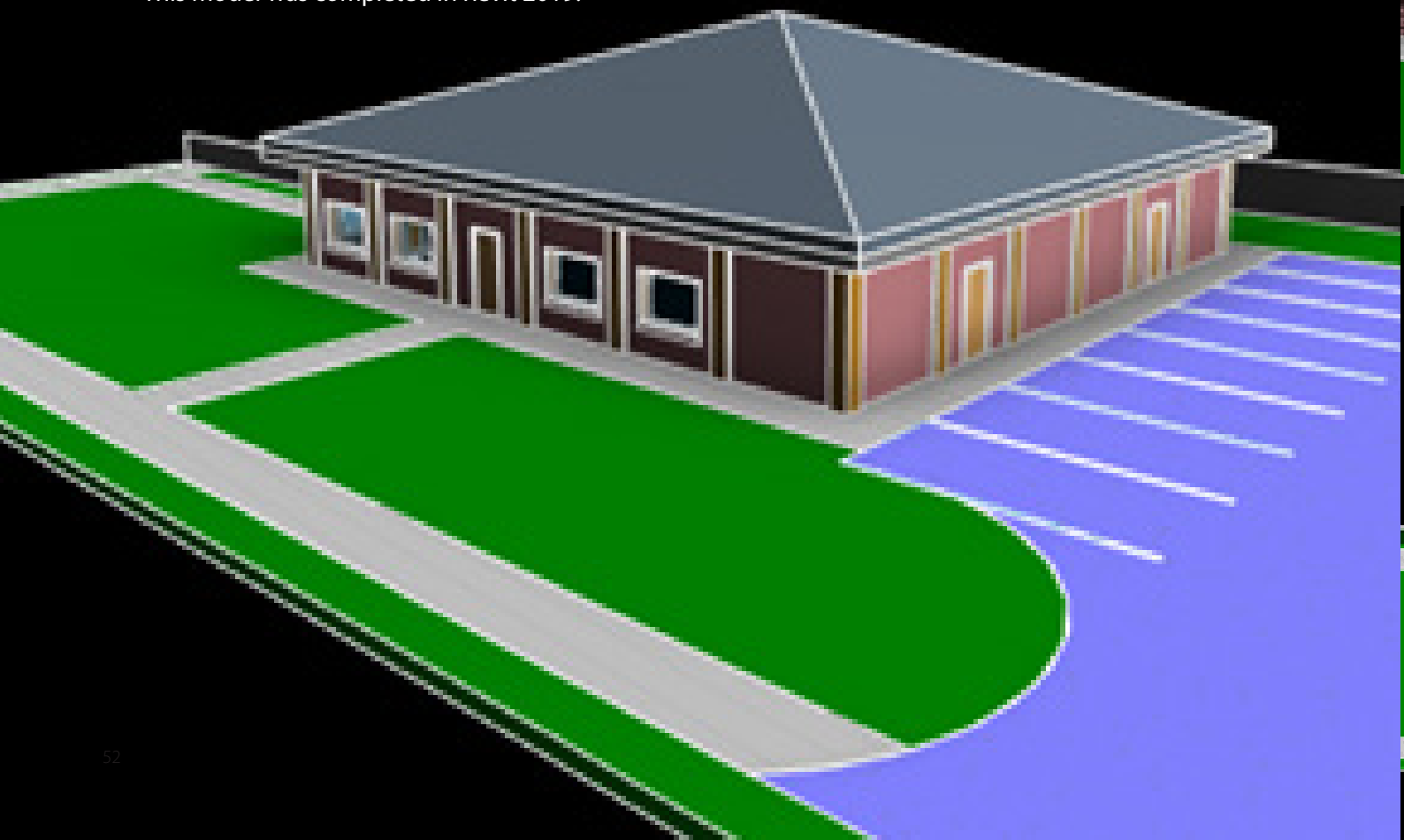
We also use Suraksha App for daily tracking of site safety indicators and encourage use of drones and fixed point photography to reduce the need for manual inspection.

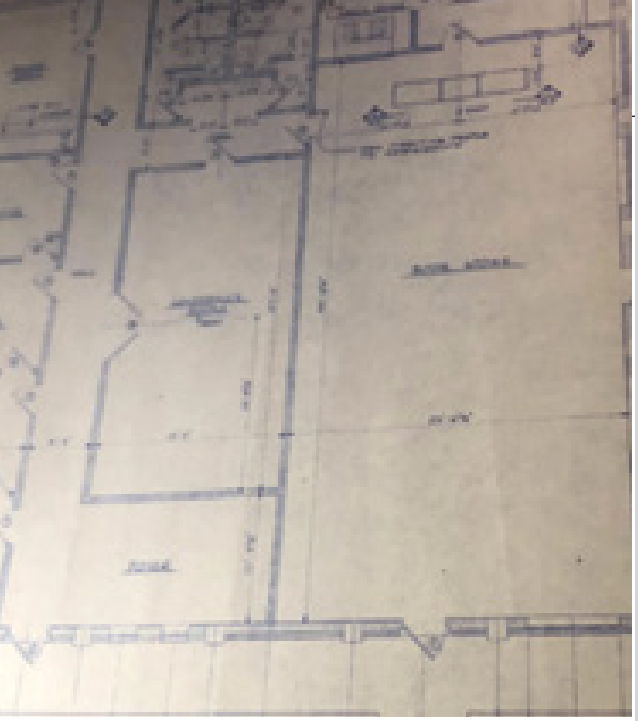


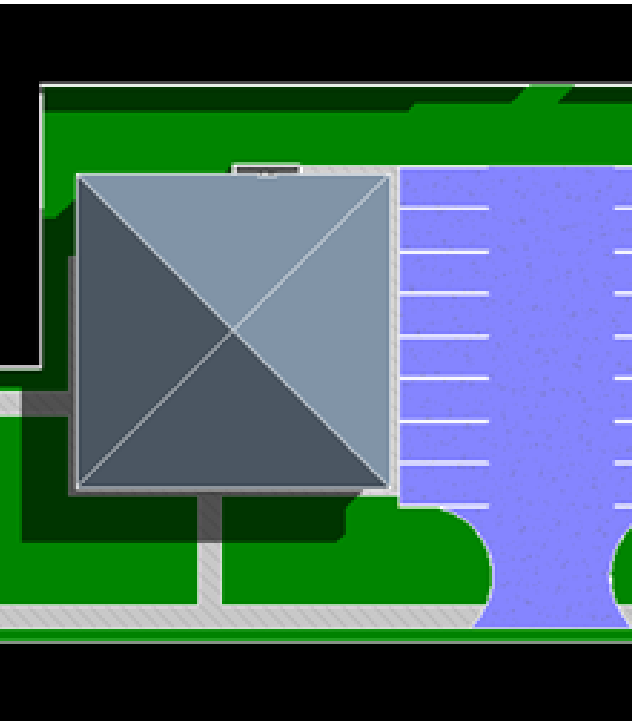
A PROJECT

Intelligent 3D Model

- The site was converted from scans of old drawing and some site photographs.
- The model was successful completed by integrating available information with google maps to get the most accurate and latest information about the location.
- This model was completed in Revit 2019.







Digital & Advanced Technology

Business Review

- Intelligent P&ID
- 3D Modeling, 4D/5D Simulation
- BIM
- Asset Digitisation
- Asset Information Management
- Digital Handover
- Engineering IT Implementation Services
- Digital Roadmap Advisory
- Asset Performance Management
- Digital Workforce Solutions
- Industry 4.0 Point Solutions
- Asset Life Assessment
- Product Engineering – Design, Analysis
- Machine Development/ Localisation
- Special Projects

Digital & Advanced Technology Business Review

Digital and Advanced Technologies business provides services in Asset Digitisation, Asset Information Modeling, Industry 4.0, Product Engineering and Special Projects. The service cuts across all our sectors - Infrastructure, Power and Resources.

Multi-dimensional digital engineering suites are now prevalent for integrated plant design, buildings, urban planning and complex infrastructure projects such as Nuclear Plants, Power Plants, Chemical Plants, Water Distribution Systems, Waste Management Systems, Towns, Hospitals, Buildings and Smart Cities.

110%
Growth over last year

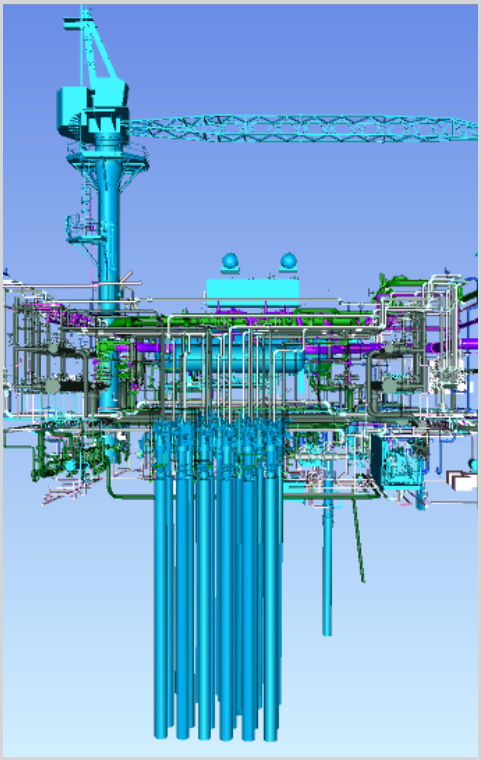
71
Employees

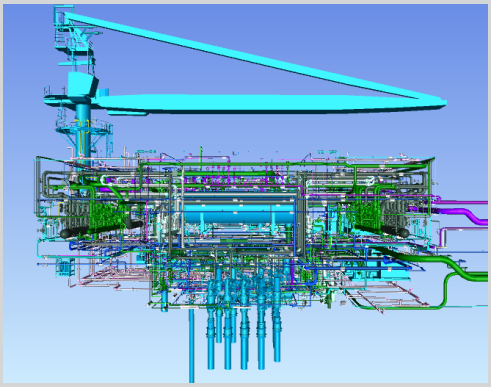
400 Seater
Accelerated Delivery Centre

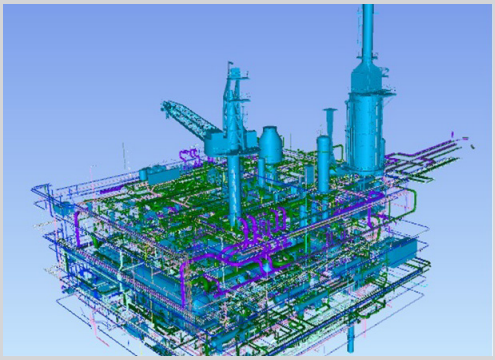
A PROJECT

Development of intelligent 3D model for offshore platforms

- The client provided a primitive model Laser scan data to develop an intelligent 3D model.
- Developed Intelligent model was checked against markup Isometrics and P&ID for assigning Tags (Valves, Special items and Instruments) and Spec break.







Key Trends Shaping the Industry:

- **Digital Adoption in Industry will only further Accelerate:** In the ever-changing business environment, most industrial and infrastructure business are increasingly realising the need for Digital Transformation to manage their businesses better. This trend will accelerate post COVID19 with companies ramping up investments in digital in the medium to long term with 'low touch' technologies being the first to be adopted.
- **The market is now moving from 'Pilots' to 'Full-scale Deployments':** Many PSUs and large private industrial players are beginning to release formal RFQs of substantial value for a wide range of requirements such as digital handover, asset digitisation, APM, digital workforce etc.
- **Need for 'Established Technologies' and Strong 'Digital Partner':** While the initial few years saw a much-needed explosion in terms of startups and self-innovation, the market is understandably converging towards established technologies with demonstrable experience and long term support setups.
- **Digital engineering and digital tools:** Creation and management of assets using digital tools, together with the interfacing and collaboration of physical and digital assets. Building Information Modelling (BIM) is expected to gain ground, as a reliable, shared knowledge resource for information and decision-making.

In line with the key trends, we plan to strengthen our business on Industry 4.0, FEA and BIM. We also aim to grow our asset digitisation business and are focused on building an internal centre of excellence for digital engineering.

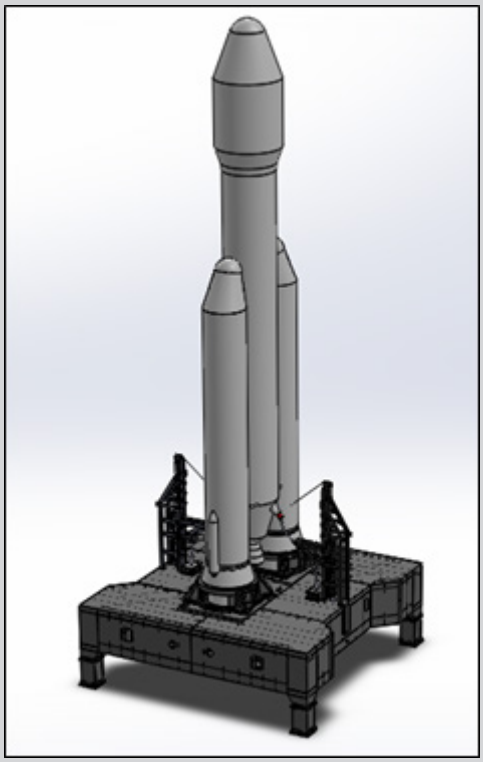
In the process, TCE will also focus on building the partner ecosystem with software OEMs, hardware firms, analytics solutions providers and other outsourcing partners. We have already entered into Laser Scanning and 3D Modelling for Private sector and have secured several Digital Handover projects. We also achieved competency and maturity for Digital Asset Information Management for a large PSU.

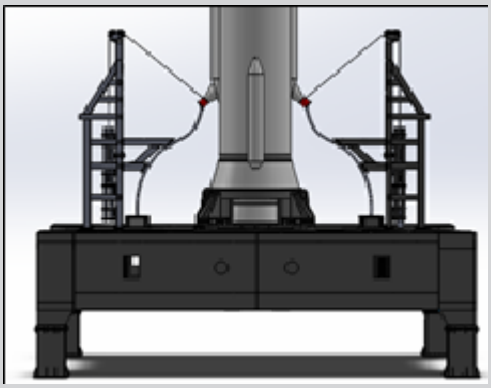
TCE plans further to expand product engineering service offering for defence and space and help with the government of India's localisation mission.

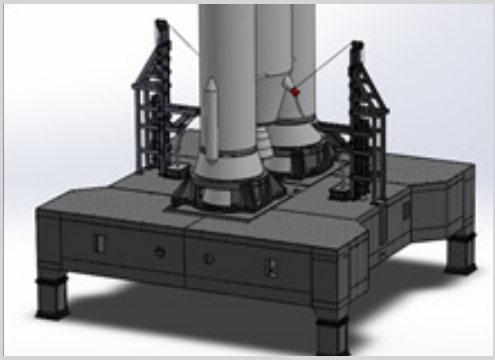
A PROJECT

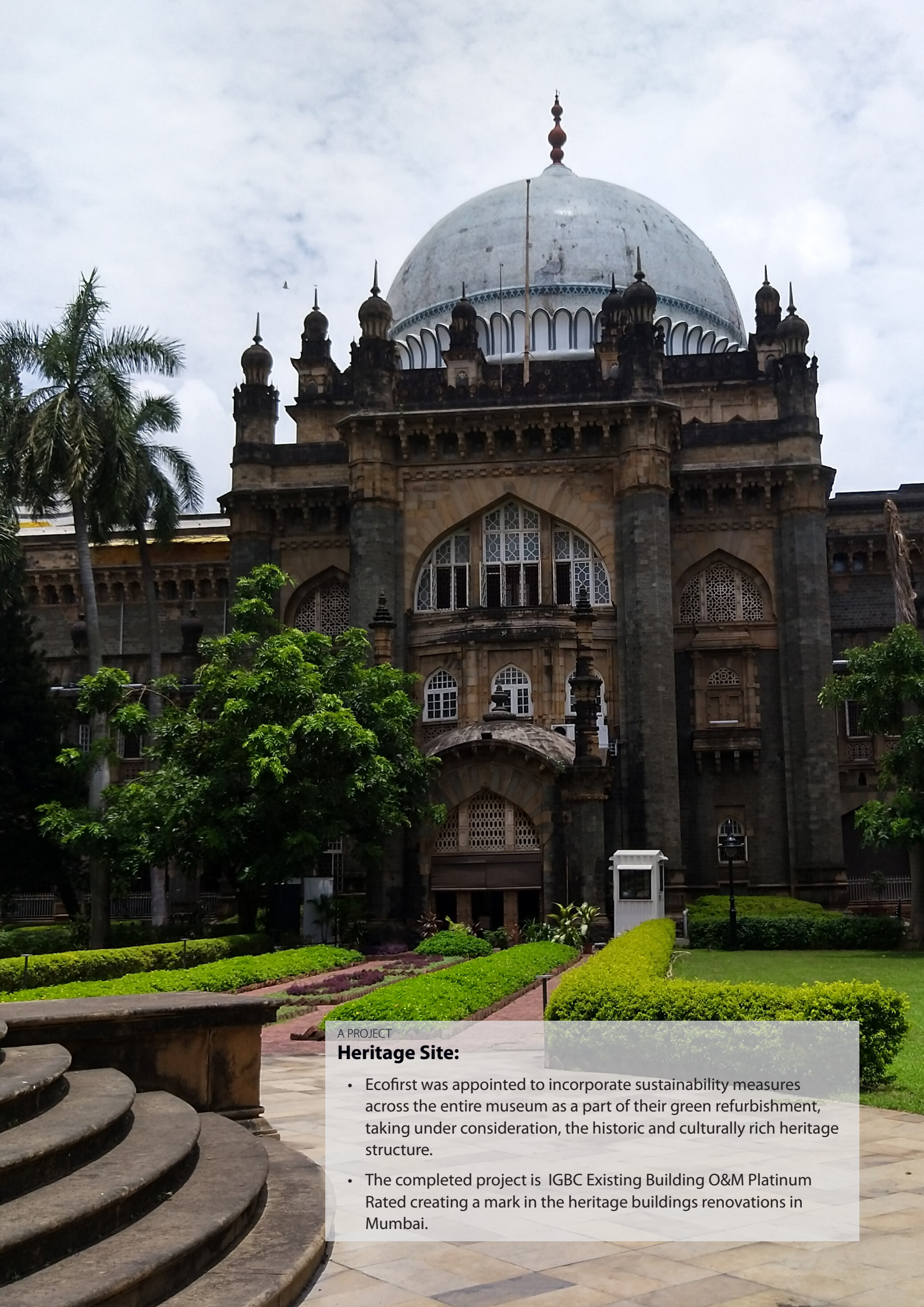
Indian Space Research Organisation (ISRO)

- Mobile Launch Pedestal (MLP): Fabricated steel structure, supports vehicle weight of 800 T to withstand extreme Jet loads experienced during launch.
- Overall size approx. 19m (L) x 19m (W) x 9m (H).
- Retractable Arms are provided on top of MLP to facilitate retraction of Umbilical Cord Unit (UCU) within few seconds during launch.









A PROJECT

Heritage Site:

- Ecofirst was appointed to incorporate sustainability measures across the entire museum as a part of their green refurbishment, taking under consideration, the historic and culturally rich heritage structure.
- The completed project is IGBC Existing Building O&M Platinum Rated creating a mark in the heritage buildings renovations in Mumbai.

Ecofirst

Sunsidiary Review

Sustainable Integrated Design

- Master Planning
- Building Engineering
- Infrastructure

Planning and Design

- Architecture
- Master Planning
- Urban Design

Sustainable Engineeronomics

- Building Engineering (MEP)
- Land Development & Wet Infrastructure
- BIM 7D

Sustainability Services

- Design Enhancement
- Sustainability Audits
- Green Building Certification

Program Management

- Project Management
- Construction Management
- Procurement & Cost Control

Ecofirst Business Review

(A 100% subsidiary of Tata Consulting Engineers)

At Ecofirst, we provide comprehensive and wholistic Integrated Design solutions across the project lifecycle. Sustainable by Design is our supreme motto. Sustainability for us is not only about taking care of environment and social concerns but also to meet financial goals of capital and operational excellence, reflecting through our design philosophy.

We specialize in creating sustainable designs and responsible development solutions by a seamless integration of Architecture, Engineering & Environmental technology. Our work in Retail, Townships, High Rise, IT Parks & warehousing industries ranges pan India. We strive to provide our associations with expertise in conceiving and developing performative, operative and feasible solutions.

25%
Growth in last 5 years

60+
Employees

370+
Projects Completed

A PROJECT

Large Residential Complex:

Ecofirst was appointed as a consultant for Sustainability Certification, Building Engineering Design, Vertical Transportation, Rooftop Solar system Engineering & Infrastructure Engineering Design.

- Installation of 200Kw Solar PV on all towers helped cater 100% of the total annual common area lighting load reducing the cost of electricity and carbon footprint.
- Reuse of industrial elements such as chimney, steel sheets and industrial equipment resulted in a saving of 3% of the total construction material cost.
- Our best technical/quality practices helped improve the project timelines by minimising the repeat work.
- The completed project is IGBC Green Homes Platinum rated creating a benchmark in the real estate industry.

Key Trends Shaping the Industry:

- With increasing awareness about the need for sustainable living, increasing trends are visible for demand in sustainable designs and buildings. Both public and private players are increasingly looking for solutions to coexist with nature.
- The digital revolution is also visible with growing impetus on digital modelling and Building Information Modelling (BIM) requirements to intelligently manage built spaces.
- Preserving heritage structures and making them modern and functional is another increasing trend and requires specialised partners like ecofirst.

In line with the market trends, Ecofirst is gearing up to provide sustainable solutions and is continuously updating its portfolio with the changes in the environment.

The subsidiary has proven its mettle with flawless execution and delivery of several mega projects and has achieved platinum & gold certifications to establish itself as a leading player in sustainable solutions space.

Some Highlights:

- Successful completion of iconic Bombay House renovation established Ecofirst as a leading player in heritage buildings restoration and renovation.
- Successfully start of sustainable and integrated Sports Complex consulting with a mega-sports complex project.
- Working with major brands to provide sustainable, integrated warehousing solutions.
- Several Sustainable Integrated Designs (SID) projects are under delivery - IT parks, Hospitals, residential complexes and mixed-use townships.
- Signed an MOU with a leading international player offering sustainable technology implementation support program pan India.
- Delivered two niche projects on Vertical Transportation Modelling and multiple projects on climate change adaptations (flood modellings solutions)
- Working on a growing number of projects with international partners in the US, UK and Bhutan.

A PROJECT

Flood Risk Assessment:

Ecofirst was appointed to carry out a Flood Risk Assessment Study and propose Mitigation methods for the project located in a flood-prone area.

- In the urban agglomeration, dealing with flood itself is quite a challenge as there needs to be a harmony between the built and the natural environment. In this case, both the projects were inhabited, sited in low lying areas, close to rivers and surrounded by Nala (streams).
- The study comprised of comprehensive analysis of various catchment characteristics based on data gathered from field investigations and open source platforms.
- The completed project ensured prevention of future losses due to flooding such as financial losses, property or equipment damages and avoiding disruption of movement.