



VIJAY TANKS & VESSELS LIMITED

SINCE 1956

Engineers | Fabricators | Contractors

Storage Tanks | Pressure Vessels | Process Equipment



Engineering + Procurement + Construction

Our Business

We provide EPC Contracting Services for Oil & Gas Storage Terminals and fabricate Pressure Vessels & Process Equipment for a range of industries. These include the Oil & Gas, Refinery, Petrochemical, Fertilizer, Steel & Power Sectors.

Now into the sixth decade of servicing global markets, we have an extensive and world-class portfolio of references: including some of the world's largest Oil & Gas Storage Terminals and Heavy Process Columns & Pressure Vessels with single piece weights of up to 1425 Metric Tons.

The successful implementation of such challenging projects inspires us to seek new benchmarks to set and new landmarks to build.

Our People

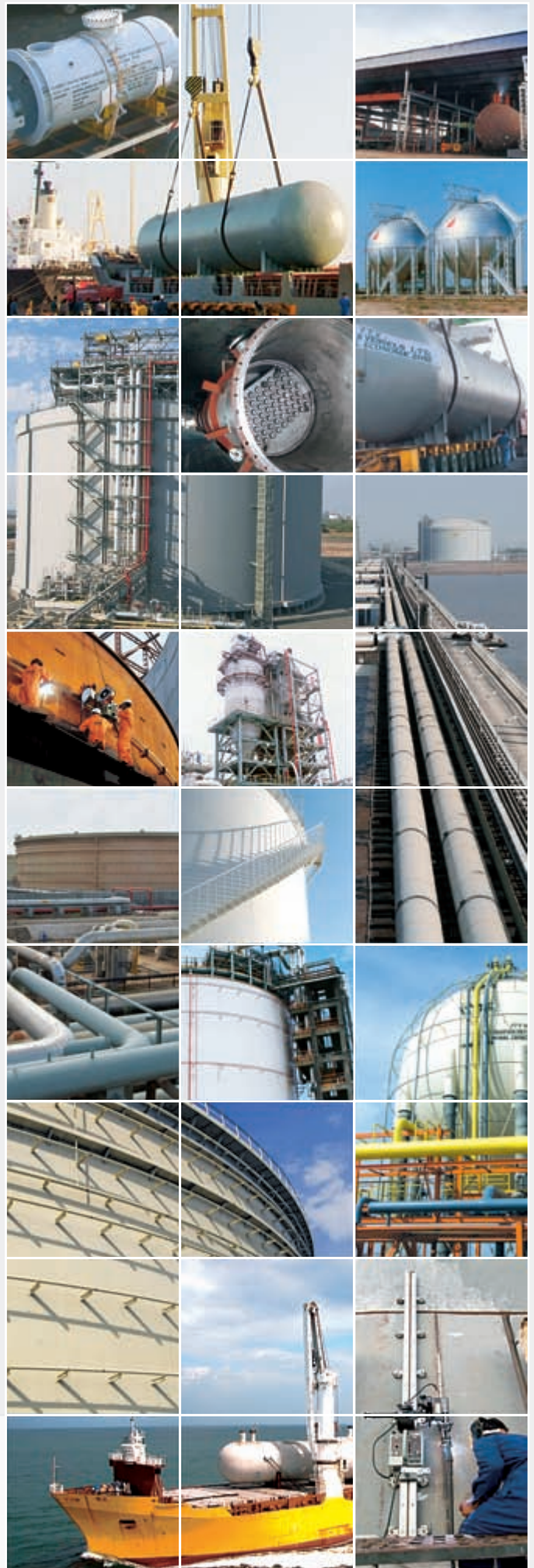
Every critical aspect of a project is managed by us, directly, with our highly skilled in-house resources. This distinctive operational philosophy gives us hands-on knowledge and a greater ability to capture critical details relevant to project management; leading to enhanced value for our customers in terms of competitive costs, on-time delivery and high-quality workmanship.

Our people operate within a flat hierarchy. We empower and encourage them to take direct ownership of their work. This ensures a strong sense of personal commitment, allows a high degree of responsiveness, and sharpens our result focus.

VTV has migrated into the third generation of Owner Management. This continuity in leadership has helped build a consistent framework of values within the organization which is embodied by today's Team VTV.



- sixth decade of servicing global markets
- extensive and world-class portfolio of references
- consistent framework of values





Storage Tanks

- Low Temperature & Cryogenic Storage Tanks
- Low Pressure Storage Tanks
- Atmospheric Storage Tanks
- High Pressure Spheres
- Mounded Storage Bullets
- Silos & Gas Holders



Pressure Vessels & Process Equipment

- Columns & Towers
- Pressure Vessels & Heat Exchangers
- Reactors & Separators
- Pipe Spools & Process Skids
- Fired Heaters & Flare Stacks
- Modular Steel Structures

Business Divisions

Our operations are structured under two Business Divisions that provide independent focus to the Company's Turnkey Contracting & Shop Fabrication operations. Both Divisions support the entire product range of the company with two distinct delivery models. The integrating factor between these two divisions is VTV's world-class fabrication capabilities.

The primary areas of concern in our industry relate to Safety, Cost, Delivery & Quality. Our business decisions, operational architecture & change initiatives are aimed towards responding to these core market demands on an ongoing basis.

- 
- **two distinct delivery models**
 - **turnkey contracting & shop fabrication**
 - **world-class fabrication capabilities**



Manufacturing Division

Our Manufacturing Division designs and fabricates Columns, Heavy Pressure Vessels & Process Equipment. We also handle a wide range of customized fabrication work including Modular Structures, Process Skids, Pipe Spools and Prefabricated Storage Tank Components.

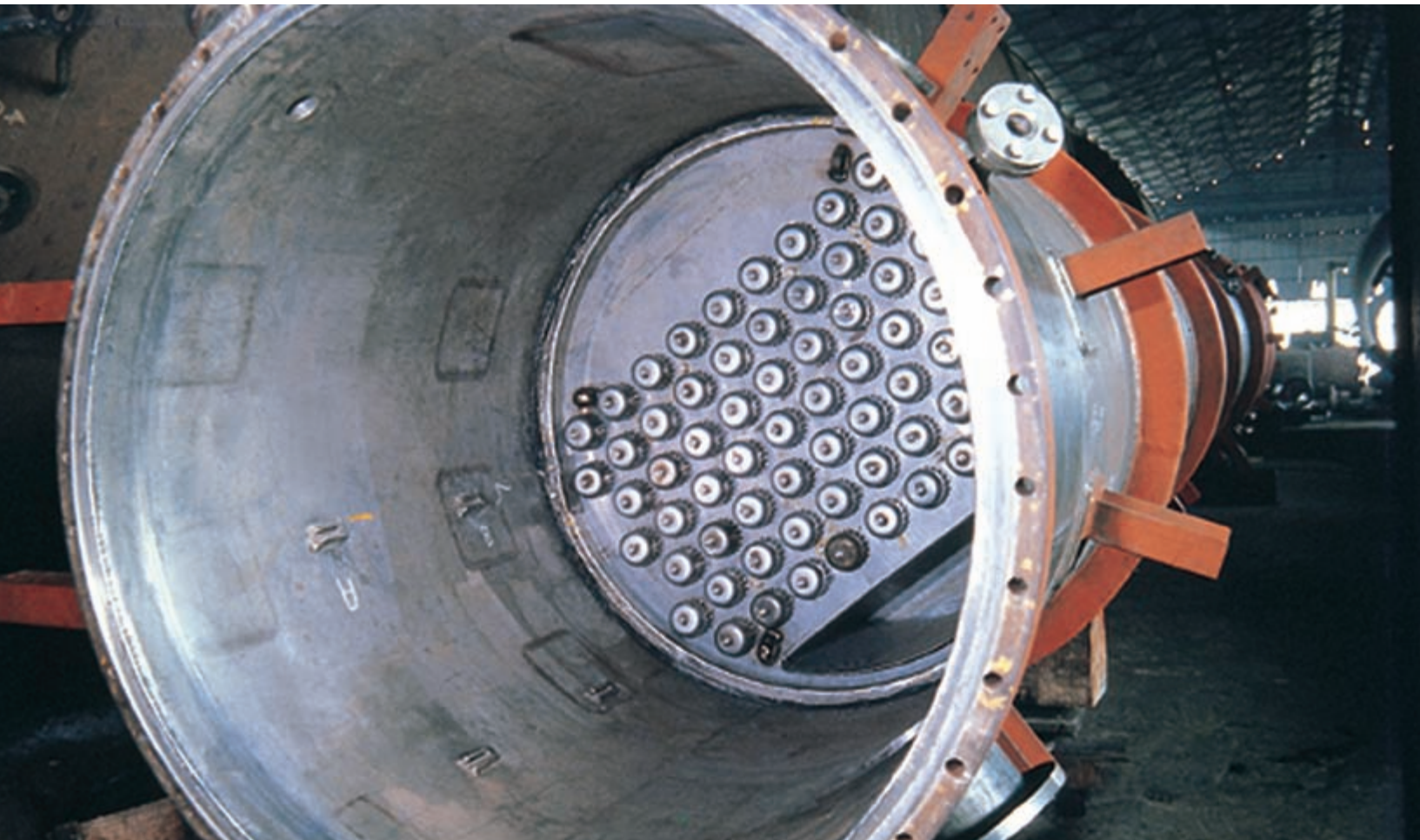
Our Fabrication Plants are located in Vadodara, Kandla & Jamnagar, with a consolidated annual steel fabrication capacity of 20,000 Metric Tons. Our Shops are situated on arterial Highways and cover a total area footprint of 160,000 Square Metres. We are close to major Indian Ports and have shipped Over-Dimensioned Shop Fabricated Equipment weighing up to 500 Metric Tons in a single piece.



- total area footprint of 160,000 square metres
- fabrication plants in Vadodara, Kandla & Jamnagar
- close to major Indian ports



We have established Welding Procedures for an extended metallurgy-process matrix. We deploy SMAW, SAW, FCAW, GTAW & GMAW processes and have handled metallurgies including Carbon & Low Alloy Steels, Heat and Creep Resistant Steels, Nickel & Aluminium Alloys, Austenitic & Ferritic Stainless Steels, Duplex Stainless Steels & Clad Materials.



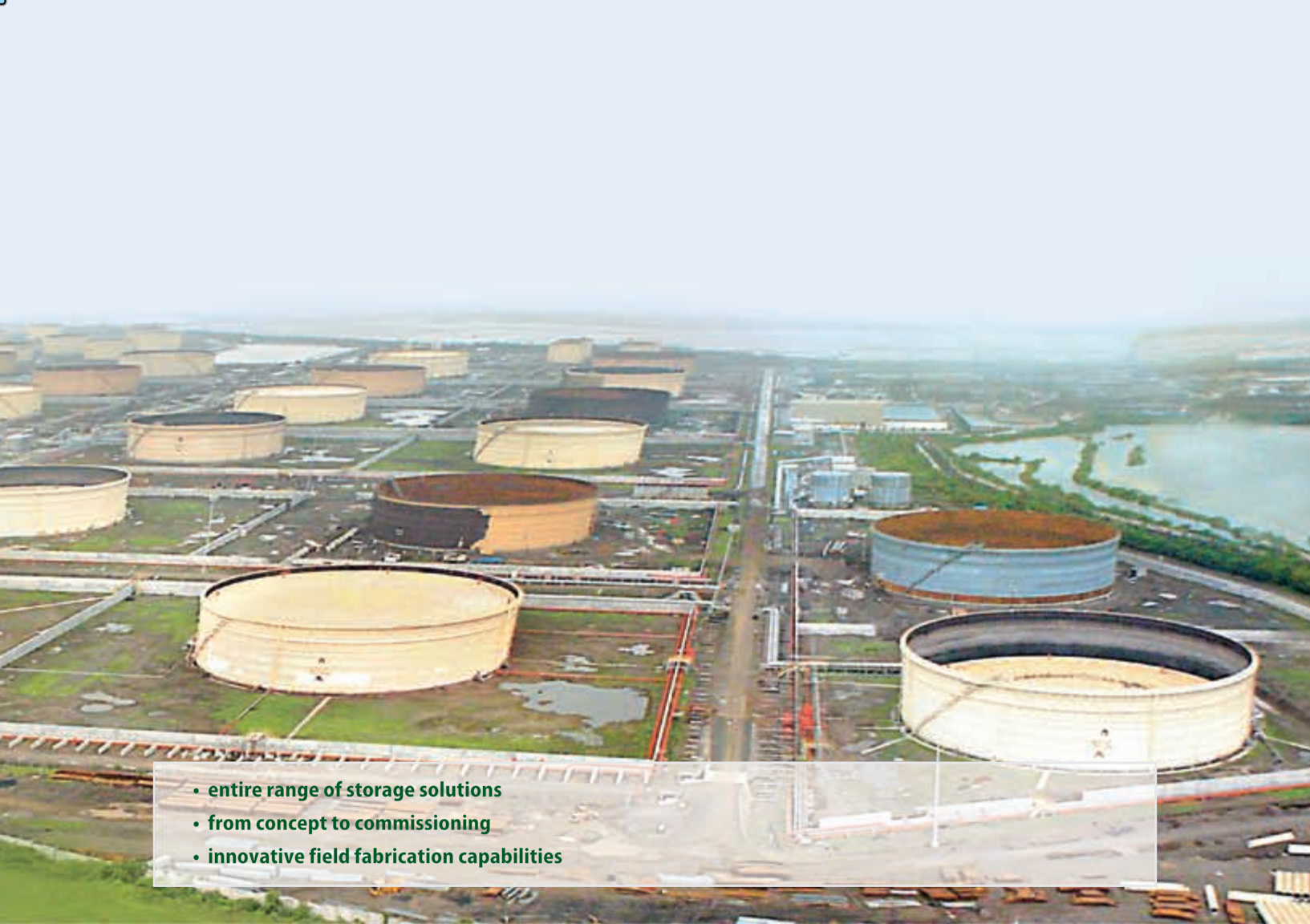


Projects Division

Our Projects Division handles Turnkey Projects from concept to commissioning. We have the track record and resources to handle Mega Storage Terminal Projects with an annual steel fabrication capacity of 50,000 Mt.

We are the only Indian Company and amongst a handful of global players with in-house capabilities to deliver the entire range of storage solutions. This enables us to offer the best storage options to suit customer requirements. Our credentials rank us amongst the world's leading Storage Tank Companies.





- **entire range of storage solutions**
- **from concept to commissioning**
- **innovative field fabrication capabilities**

We have built India's first LNG Storage Tanks & India's first three Cryogenic Ethylene Storage Terminals. We have the expertise to deliver Cryogenic Storage, Refrigeration & Handling Terminal Facilities on a turnkey basis from concept to commissioning. Another unique offering is our EPC execution of Over Dimensioned Field Fabricated Columns & Pressure Vessels. These include ASME Code Stamped Coke Drums, the first such Coke Drums anywhere in the world that have been completely fabricated on site.



Our Story

1956 - 1962

The Early Years

- Initial exposure to the General Contracting Business



Founded by R. Ramanujan as Vijay Industries
Starts out as a manufacturer of Underground Petroleum Storage Tanks



Revamping work for the furnace at Standard-Vacuum's Bombay Refinery

Opens floodgates for Mechanical Construction assignments at Refinery

1963 - 1969

Building Blocks

- Pioneering Project Milestones
- Heralds creation of World Class Storage Tank & Pressure Vessel Company



Ramanujan & his son Raghavan build strong reputation based on innovation, grit and enterprise.

Awarded the contract to build the entire Tankfarm for India's first Indigenous Refinery



Established first fully equipped Pressure Vessel Factory in Bombay,

Manufactured the earliest Shop fabricated LPG Bullets in India.



Built the entire Tankfarm for India's second Indigenous Refinery

Designed & shop fabricated first Crude Distillation Column for the Esso Refinery



Developed in-house manufacturing capabilities for Welding Rectifiers

Pioneering efforts in the development of Shop Fabricated LPG Road Tankers



First Indian company to design & build High Pressure LPG Storage Spheres for Esso Refinery

Complete Erection of 1 MTPA Atmospheric Unit at Gujarat Refinery



Reconstituted into a Limited Liability company – Rechristened as Vijay Tanks & Vessels Ltd.

Established second Pressure Vessel Factory in Southern India

1970 – 1979

Technology Renaissance

- Path-breaking technological initiatives
- Culture of creative innovation that remains the edifice of today's VTV



1970

Built the entire Tankfarm for India's third Indigenous Refinery

Licensee arrangement with Graver Tank Manuf. Co. for Floating Roof & Cryogenic Tank Technology



1971

First Cryogenic LOX/LIN Storage Tanks for Hindustan Steel

Extensive Turnkey Scope : Built 9 Nos. Product Storage & Handling Marketing Terminals across India



1972

Pioneered deployment of the SAW Process for Tank Welding in India

Built 22 high Pressure Spheres across the country



1973

Built Asia's largest 1,170,000 Cu.M. capacity Crude Oil Storage Terminal. 13 nos., 79 m. Dia. x 18.1 m. Ht. Double Deck Floating Roof Tanks

1974– 1987

Global Footprint

- Emergence as a Global Player
- Leverages strong domain expertise & integrated business model



1974

First foray into international arena with a Tank Farm Project for Kuwait Oil Company

First Crude & Vacuum Heaters built for Gujarat Refinery



1975

First Indian shop export of LPG bullets to Iraq

Entry into Africa with Turnkey Tankfarm Projects at Nairobi & Embakasi Airports



1976

Developed Indian Standard Code for Storage Tank Design & Construction as Lead Member of the Government appointed committee

Built first Low Temperature Ammonia Storage Spheres in India



1978

Built Pilot Distillation Process Plant for Gujarat Refinery

Turnkey Project for LPG Unloading, Storage & Handling at Salem Steel Plant



1979

EPC Contract for Refrigerated Ammonia Storage Terminal in Southern India

Shop Fabricated 10 Nos. Distillation Columns / Process Towers for a Chemical Plant



1981

Built 5 nos. Refrigerated Ammonia Storage Tanks for Fertiliser Plants across India

Major Tankfarm Orders secured from KNPC-Kuwait & SCOT-Syria



1983

Largest Single Shop Order 8 Spheres, 137 Pressure Vessels, 2 Gas Holders & 14 Columns for IPCL

Major Tank Project for Basrah Refinery, Iraq



1986

EPC Project for India's first Ethylene Storage Tanks at IPCL-Nagothane

Major Fuel Oil Storage & Handling Facility Project at Abukamash, Libya



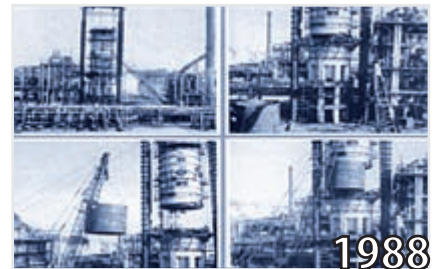
1987

Introduced the concept of Tank Construction by hydraulic jacking in India.

Slew of Tank contracts in Africa & Middle East cement international reputation

1988 - 1995 Innovation & Consolidation

- Next generation construction technology initiatives



1988

Turnkey Project for 2 nos. Coke Chambers. VTV's unique erection scheme using derricks, vetted by IIT (Powai), has since become an industry standard



1992

Embarked on a special project for the development of the 'Varahasphere' to enhance construction safety standards by maximizing work near grade levels

Cryogenic LOX Tank for Essar Steel, Hazira



1993

Commissioned VTV's largest Turnkey Project. Integrated Oil & Gas Storage & Handling Terminal in Libya

Relocation of Pressure Vessel Factories to Vadodara & Jamnagar



1994

Continued Cryogenic thrust – built 2nd & 3rd Ethylene Storage Terminals in India

EPC contract for Fuel Oil Storage & Handling Terminal at Tobruk, Libya



1995

Built Worlds first hydraulically lifted 'Varaha Sphere' using VTV's patented construction process

VTV's construction technology innovations widely appreciated

Fresh Contracts for 21 Spheres



1996

Shop Fabricated equipment supplied to Bechtel for the Enron Dabhol Power Project

Built SS Silos & Sour Service Tanks with PWHT for RIL, Hazira Petrochemical Plant



1997

Built LPG Import Terminal for Elf Gas – 6 Nos. 18 m. Dia. Spheres

Heaviest Domestic Shop Order : 3 Nos. x 5.9 m. dia. x 64 m. long x 600 Mt. each Mounded Bullets transported in 9 segments to the IOC Gujarat Refinery.

1996 - 2001

New Benchmarks in Scale & Scope

- Built storage terminals and equipment that set global benchmarks in terms of scale



Commenced design & construction of one of the World's largest Crude Oil Storage Terminals – 3,168,000 Cu.M. (20 Mil. Bbls) capacity - 24 Nos. 92 M. dia. x 20 M. ht. Double Deck Floating Roof Tanks.



Turnkey Project for India's largest LPG Mounded Storage & Handling Terminal

14 Nos. Shop Fabricated Process Columns delivered from Jamnagar Works to Reliance

Designed & constructed largest Cone Roof Tank 57 m. Dia. x 20 m. Ht.



Major Orders received for 3 additional Mounded Storage Terminal Projects Cements VTV's market leadership in this new product segment

VTV Ranked amongst India's Top 500 Unlisted Companies



Built India's first LNG Storage Tanks for IHI at Dahej

15 Nos. LPG/Hydrogen Spheres for Essar/ABB Oil Refinery – Plate thickness upto 73 mm

2002 & Beyond

Leadership & Excellence

- New targets, new relationships, new benchmarks



First LSTK Yard Piping Contract executed for IOC

80 mm Wall thk. Hydrogen Bullet Fabricated at Vadodara Shop for IOC Mathura



Establishment of Kandla Export Works : First Shop Export of Pipe Spools to Australia for Burrup Fertiliser Project

First Indian Company to execute an EPC Contract for SS Silos / Duplex SS Tanks for PTA chip storage



Pioneered Site Fabrication of Critical Columns & Coke Drums in India - Built all the OD Columns for CDU, DCU & PX Plants at IOC Panipat

Contract for 17 Storage Tanks at KOC, Kuwait



Turnkey Contract for Cryogenic Ethylene Storage Tank in Southern India

Shop Export of 2 nos. Fuel Oil Storage Tanks for erection at a Power Project in Libya & Equipment for a Steel Plant in Qatar



VTV's heaviest Shop Export 4 nos. 500 MT each LPG Mounded Bullets shipped to New Caledonia for the Goro Nickel Project

EPC Contract for 6 nos. Columns for Naptha Cracker Unit secured from Toyo (Japan)



Shop Export Order from Petrofac for 8 Nos. Mounded Bullets for British Gas Terminal in Tunisia

EPC Contract for Coke Drums for Delayed Coker Unit

Industries & Clientele

Oil & Gas

Snamprogetti / Saudi Aramco, KSA

Petrofac / British Gas, Tunisia

Daelim / KOC, Kuwait

Petrochemical

Toyo / IOC, Panipat

Flour / Reliance, Hazira

Praxair / HPL, Haldia

Refinery

JGC / KNPC, Kuwait

ABB / Essar Oil, Jamnagar

Basrah Refinery, Iraq



Marketing Terminals

Aker Kvaerner / Elf Gas ,Mangalore
ENOC, UAE
SCOT, Syria

LNG

IHI /Petronet LNG, Dahej
Bechtel/ConocoPhilips, Egypt
Tecnimont / Shell, Hazira

Metals & Mining

Foster Wheeler/Inco, New Caledonia
Midrex/Shadeed Iron & Steel, Oman
Kobe Steel/Qasco, Qatar

Fertiliser

Snamprogetti/Omifco, Oman
Fertil, UAE
SNCLavalin/Burrup Fertiliser, Australia

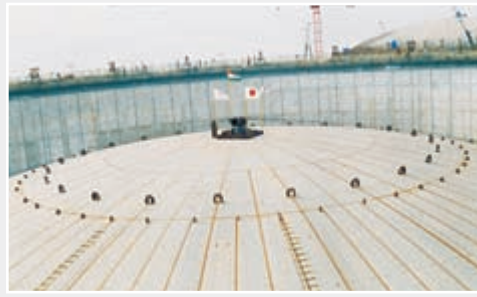
Chemical

Trust Chemicals, Egypt
Technip/Chemplast Sanmar, Karaikal
Chiyoda / PRC, India

Power

BHEL/Gecol, Libya
Bechtel/Enron, Dabhol
Nuclear Power Corp., India





Roof Air Raising

India's First LNG Storage Tanks

Two 160,000 cubic metre Full Containment LNG Storage Tanks built for Petronet LNG. Each Tank comprises of an 81 meter diameter x 38 meter height Outer Tank enclosing a 79 meter diameter x 36 meter height Inner Cup aggregating to 3000 Metric Tons of Steel.

Our capabilities in the deployment of the Automatic SAW Process for 9% Ni Steel welding and the air-raising of the Dome Roofs benchmark us against a handful of global cryogenic tank builders.

Design

Design Engineering

360 Degree Experience:

Our experience covers a wide gamut of mechanical equipment design & a range of multi-disciplinary engineering work. This wide template of expertise provides us with an edge in adding value at the design board stage.

Practical Approach:

Our Engineering receives valuable real-time feedback from our in-house Construction / Fabrication teams. This interface sharpens our continuous improvement initiatives in design.

Engineering Review Tools :

Our designs are regularly updated in line with international codes and standards. We use the latest design engineering software tools to analyse and validate our engineering work. These include STAAD, PVElite, PDS, ANSYS & COSMOS.

extending a pioneering legacy in cryogenic storage





Road Transit



Ship Loading



Ocean Freight

500 Mt. Single Piece Shipment

Four 8 meter diameter x 40 meter long CE Marked LPG Bullets for a Mounded Storage System, built at VTV's Export Shop at the Kandla SEZ. The Bullets were shipped on a Heavy Lift Vessel with 2 x 400 Metric Ton capacity cranes to the Goro Nickel Project site off the Australian Coast..

VTV's Export Shop within the Kandla Special Economic Zone is strategically located in close proximity to the Port. This has enabled us to ship equipments of up to 12 metres in diameter and single piece equipments up to 500 Metric Tons in weight.

heavy engineering expertise





unique breakthrough in construction innovation

The Patented Varahasphere™

Our 'Varahaspheres' are constructed using a patented hydraulic erection system. This unique construction process delivers fresh benchmarks in construction safety by maximizing assembly and welding work near grade levels. This approach also allows optimal resource utilization during construction and facilitates higher levels of quality assurance/control.

With references that include over 275 Spherical Tanks worldwide, we combine decades of engineering, procurement and fabrication expertise to build strong value propositions for our customers.

Project

Project Management

Guided by Detail:

Our Project Schedules are prepared on MS Projects & Primavera. Planning activities focus on delegation of clear work and result targets across the organization.

Integrated & Proactive Approach:

Our emphasis on building integrated teams, led by Project Managers who provide a single-point contact to customers, enables us to respond with speed and insight in tackling project issues.

Systems supported by Experience:

Critical path activities are tracked at multiple levels extending up to Senior Management. This strengthens our ability to forecast risks and mitigate them at the early stages of a project.





entry into an exclusive club of international fabricators

India's first indigenous Coke Drums

India's First Indigenously Built Coke Drums fabricated by us for a Refinery Project in northern India. These critical application Vessels were designed using Low Alloy Cr-Mo Clad Steels. Our path-breaking efforts on this project have underlined our presence as a strong EPC Company in this product segment.

Innovation & Flexibility – combined with our highly acclaimed fabrication capabilities – have enabled us to deliver uniquely designed Fabrication solutions for a wide range of sophisticated equipments.





Turnkey Ethylene Storage Tank

A 7000 cubic meter capacity Double Integrity Cryogenic Ethylene Storage Tank executed on an EPC basis by us for Chemplast Sanmar's Import Terminal at Karaikal.

With over four decades of experience in delivering turnkey solutions for Cryogenic Storage Terminals, we are recognized globally for our Cryogenic Storage Systems expertise. We are the only Indian Company which straddles the entire Cryogenic & Refrigerated Storage Systems product chain ranging from Ammonia / LPG / VCM/LOX/LIN to Ethylene/Propylene/Butane/LNG.

Procure

Procurement Services

Long-term Relationships Worldwide:

Over five decades in the business has helped us build enduring relationships with suppliers and sub-vendors globally. Our extensive and active vendor database helps us proactively address project procurement demands.

Expediting Focused:

We address both technical and commercial expediting options to derive optimal sub-vendor delivery solutions. We assess sub-vendor progress, understand their constraints and respond in a manner that ties in their delivery cycles with project requirements.

Strategic Tool:

As a major and active buyer, we are able to keep an advance track on market availability, pricing and delivery trends. Our ability to deliver inbuilt time and cost advantages is a result of this focused effort.

servicing the entire range of cryogenic gas storage





Adsorbent chamber erection

Over Dimensioned CDU/VDU Columns

We built the Atmospheric and Vacuum Columns for the IOC Panipat Refinery Expansion Project. The column dimensions were 6.8 meter diameter x 70 meter long & 10 meter diameter x 56 meter long respectively. The entire heavy lift operation for final erection of the Columns was also handled by us, for which a 650 Metric Ton Lifting Crane and a 250 Metric Ton Tailing Crane were deployed to handle a maximum single lift of 300 Metric Tons.

With more than 150 Columns designed and supplied till date and a track record spanning over four decades, we combine enormous experience with a strong core fabrication capability.

benchmarks in critical equipment fabrication





addressing industrial safety concerns

Mounded Storage Systems

We have handled the turnkey implementation from basic design to commissioning of India's largest Mounded Storage Terminal consisting of Nine 6 meter diameter x 99 meter long Bullets aggregating to 25,000 cubic metres of storage. We have delivered such systems to customers in India and across the world in far-flung destinations such as Tunisia & New Caledonia. Our track record slots us amongst the leading international EPC Contractors for turnkey implementation of Pressurised Bulk Gas Storage Systems.

Quality

Quality & Welding

International Certifications:

We are an ISO 9001 company with CE, ASME U & U2 & NB certifications. We have established welding procedures qualified under inspection agencies such as LRA, TUV, DNV, BV & EIL.

Strong In-house Resources :

Our ability to handle a wide range of equipment fabrication work with in-house resources is a key part of our integrated, EPC business structure. This provides greater assurance on timely delivery and superior quality on our projects.

Welding Automation :

Our experience in the deployment of automated welding dates back to 1972. We have a large complement of automatic welding equipment and provide priority focus on development and upgradation of this expertise.





columns & process equipment for a petrochemical plant

Built to UOP's exacting standards

We designed and supplied the Xylene & Raffinate Columns and Two Adsorbent Chambers for a Paraxylene Unit of an integrated Refinery and Petrochemical Complex. The Adsorbent Chamber internals included an intricate network of center-pipes, grids & interconnected piping, fabricated to meet stringent tolerances that validated our control over the fabrication process.

The Heaviest Column on our reference list is a Propylene Fractionator Column weighing 1425 Metric Tons. Equipment dimensions were 8.2 meter diameter x 85.4 meter TT length with 70 mm maximum thickness.



A 4.5 meter diameter x 24 meter long x 80 mm thick Hydrogen Bullet designed for a pressure of 640 psig. This 250 Metric Ton Bullet was fabricated at our Works in Vadodara and transported over a distance of 1000 kilometres to an Oil Refinery in Northern India.



Integrated Oil & Gas Terminal

Our experience on Turnkey Projects includes an Oil & Gas Storage & Handling Terminal in Libya for Brega Petroleum. Our scope involved a Multi-Product Storage System, an LPG Bottling Plant, Terminal Piping, Electrical & Instrumentation Systems, Plant Pump House Facilities, a 2.6 km. Road Network, Administrative Buildings, Maintenance Workshops, Fire Protection Systems & an Integrated Communication System.

We have executed a range of such projects that showcase our deeply honed multidisciplinary organizational capabilities that enable us to deliver the largest and most complicated projects on time, to international standards and at a competitive cost.

Safety

Health, Safety & Environment :

HSE Systems :

At VTV, Safety is an area of priority focus. Our HSE standards and procedures are developed to ensure that we provide a safe and healthy working environment to our people. We deploy qualified Safety Teams on all our work sites and plants.

Safety Awards :

We have received many Safety Awards from customers for our initiatives in HSE. An audit program is underway to enable certification under ISO14001 & OSHAS 18001 for our HSE Programs.

HRD Approach :

Our HR practices focus on long-term engagements with both our Engineers and Crew. This builds a sense of community within our Plant and Project teams, which provides a strong human dimension to our HSE implementation.

multi disciplinary skills





12 metre diameter SS Silo erection on a 45 m elevation platform using a 250 MT Crane.

Mega Crude Oil Terminals

A 20 Million barrels capacity Crude Oil Storage Tankfarm - amongst the largest in the world - designed & constructed by us for the Reliance Jamnagar Refinery. This Terminal consisted of 24 Nos. 92 metre diameter x 20 metre height Double Deck Floating Roof Storage Tanks aggregating to 72,000 Mt. of steel fabrication.

We have built more than 70% of India's Crude Oil Storage Capacity. With over 3000 Storage Tanks in service across the globe, we bring on board a rare depth in specialist experience that delivers value on issues of substance.

a global leader in storage solutions





VIJAY TANKS & VESSELS LIMITED

National Highway No.8,
Sankarda, Vadodara - 391 350,
Gujarat, India.

Tel : 0091 265 2840 168 / 171 / 572

Fax : 0091 265 2840 577

Email : ho@vijaytanks.com

URL : www.vijaytanks.com





