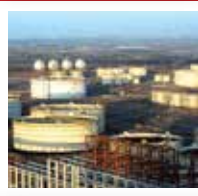




Making Mega Projects Possible



Making Mega Projects Possible



Hydrocarbon
Refinery, Petrochemical, Fertilizer



Tankages & Terminals
Crude Oil, Intermediate, Finished Product



Pipelines
Hydrocarbon, Water, Slurry



Offshore & Subsea
Platforms, SPM, Pipelines



Infrastructure
Ports, Jetties, Airports, Railway, Roads,
Buildings & Townships, Water Systems



Minerals & Metals
Steel Plants, Beneficiation, Sinter, Pelletisation Plants,
Material Handling Systems



Power Plants
Coal, Combined Cycle, Multi-fuel, Hydel

A LEADING ENGINEERING, PROCUREMENT, CONSTRUCTION & OPERATIONS CONTRACTOR

- Offering full-spectrum Value-Engineered EPC Solutions
- Delivering projects of Scale, Size & Complexity across Diverse Sectors
- Specialised team for Engineering, Procurement, Construction & Project Management
- Integrating lessons from O&M experience into basic design & execution philosophy for new projects
- Competitive Sourcing & Procurement through Cost-Model Analysis, Total Cost of Ownership (TCO) framework, Comprehensive Vendor Research
- Innovative construction management philosophy including modularization
- Access to a fleet of Specialised State-of-Art Equipment & Large Fabrication Facility
- Extensive labour management capability (handled 25,000 + peak manpower at a single site)

Overview

Essar Projects is part of the Infrastructure portfolio of Essar Capital Limited, which is the investment manager of Essar Global Fund Limited (EGFL). EGFL is a global investor, owning a number of world-class assets diversified across the core sectors of Energy (comprising Exploration & Production, Refining & Marketing and Power businesses), Infrastructure (comprising Ports, Projects and Stanlow Terminals), Metals & Mining, Technology & Services (comprising Shipping, Oilfield services, Technology Solutions, Device protection and Customer experience).

Essar began as a construction company in 1969; working on marine, ports and offshore contracts, gradually becoming one of the first few Indian Companies to lay Offshore Pipelines for ONGC in 1982. With diversification of business activities, all the construction activities of Essar were consolidated to form the Essar Projects. Since then, Essar Projects has played a defining role in the Engineering, Procurement and Construction (EPC) domain, offering innovative execution and delivery solutions to its clients, across geographies and multiple sectors, for projects of scale and complexity, whilst managing diverse technological interfaces. Today, we offer our clients unique, collaborative end-to-end projects' delivery models. The experience gained while executing mega projects for the Essar Group companies, providing post-commissioning assistance during early stages of operations & maintenance and further the lessons learnt therein are well integrated into basic design and execution philosophy for all new projects – including those of external clients bringing in **Owner's Perspective** to our EPC delivery. Our footprint spreads across India, Middle East, Europe, South-East Asia, Americas and also some challenging geographies of Africa and Australasia.

Over the past few decades Essar Projects has executed

- 35 MMTPA Refining Capacity
- 6.5 MMCM of Tankages Capacity
- 1.3 MTPA Fertilizer Complex
- 10 MTPA Integrated Steel Plant complex
- 1.5 MTPA Plate Mill and 0.6 MTPA Pipe Mill with L-Saw, H-Saw & Coating Plant
- 27 MTPA Capacity of Beneficiation and 21 MTPA Pelletization Plants
- Various Steel Plant Projects for SAIL, JSPL, JSW and Tata Steel
- 3900 MW Power Generation Capacity – including Coal, Gas & Multifuel
- Over 5500 Km of Oil & Gas, Water and Slurry Pipelines - through tough terrains - in India, Africa and Middle East
- Design, Fabrication & Installation of Offshore Platforms, Subsea Rigid & Flexible Pipelines, SPMS, FPSO Moorings and Subsea Cable Laying
- Hydrocarbon & Pipeline Projects in Middle East for major players like ADNOC Group, BOROUGE, Saudi Aramco, KOGOC, KIPIC
- 160 MMTPA Ports Capacity including Liquid as well as Dry Bulk Cargo Handling Berths
- India's first mega scale commercial RoRo jetty for Ropax ferries in waters with 10 m tidal variation (highest variation for any RoRo jetty in India & second highest in the world)
- Multi Modal Transit Transport Project in Myanmar
- Airport and Road Projects in tough geography of Papua New Guinea

Once Safe, Always Safe

Essar Projects maintains highest standards of systems in Health, Safety and Environment (HSE). Since 2005, we have logged over **1.05 billion cumulative man-hours** at various project sites – completed/under execution. Our Average Lost Time Incident Frequency Rate (LTIFR) has been **0.013** against the global construction industry average of **0.2** and we have achieved a **Total Recordable Incident Frequency Rate (TRFR) of 0.077** against **2.8** of **OSHA USA** (publication-average for the year 2019).

HYDROCARBON



REFINERIES / OIL & GAS

Essar Projects has executed following key projects:

- EPC of 20 MMTPA Refinery for Essar Oil at Vadinar, India (now Nayara Energy)
- EPC of key Process Units for 15 MMTPA Indian Oil Corporation Ltd. (IOCL) Refinery at Paradip, India
- EPC of 3.84 MMTPA DCU and Reactor Regenerator Package of 2.2 MMTPA FCCU for Bharat Petroleum Corporation Ltd. (BPCL) Refinery at Kochi, India
- Civil & Structural Works for CBDC for TAKREER Refinery at Ruwais, Abu Dhabi, UAE
- EPC of Brown Field facilities for Shaybah Crude Stabilization Project at Saudi Aramco Abqaiq Plant, Saudi Arabia
- Extended Basic Engineering for Naptha Stripper Plant Diluted Crude Oil Project for PDVSA, Venezuela

Major Process Units' experience includes:

- Crude Distillation/Vacuum Distillation/Saturated Gas Units
- Continuous Catalytic Reformer/Naptha Hydrotreater/Isomerization Units
- Vacuum Gas Oil Hydrotreater/ Fluid Catalytic Cracker/ Unsaturated Gas Separation Units
- Diesel Hydro Desulphurization/Diesel Hydrotreater Units
- Delayed Coker Unit
- Amine Regeneration/Sulphur Recovery/Sour Water Stripper Units
- Hydrogen Manufacturing Unit



TANKAGES & TERMINALS

Essar Projects has executed Storage Tanks & Terminals projects totalling to a capacity of around 6.5 MMCM which include:

- EPC of Crude Oil, Intermediate & Product tankages (total 3.2 MMCM capacity) for Essar Oil (now Nayara Energy) at Vadinar
- EPC of Tankages & Storage Terminal (0.5 MMCM) and Marine Facilities for Jurong Aromatics (now ExxonMobil Asia), at Singapore
- EPCM & PMC for IOCL's Oil & Gas Installations and Storage & Handling facilities for Petroleum Products at 101 Depots and Terminals across India
- EPC of Tankages, (2.75 MMCM) Civil Works, Roads & Bridges for KIPIC Al Zour Refinery Project Package 4, at Al Zour, Kuwait



PETROCHEMICALS & FERTILIZERS

Some of the Petrochemicals & Fertilizer Plants projects undertaken by the Essar Projects in the past include:

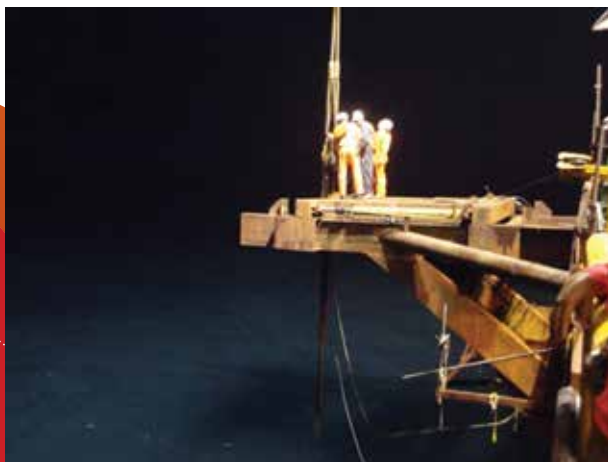
- EPC of 2,200 MTPD (0.73 MTPA) Ammonia and 3,850 MTPD (1.3 MTPA) Urea plant with associated utilities and Cryogenic Tanks for Matix Fertilizers & Chemicals, Durgapur, West Bengal, India
- EPC of Spent Caustic Treatment Plant for ADNOC Refining (TAKREER) in Abu Dhabi, UAE
- EPC of process equipment and associated pipelines for PE Colour Grade Compounding (CGC) project for Abu Dhabi Polymers Company (BOROUGE), in Abu Dhabi, UAE
- EPC Works for Sulphur Silo Revamp, Evaporation System in Phosphoric Acid Plant and New lined Phospo Gypsum Stack for IFFCO Fertilizer Plant, Paradip, India



OFFSHORE & SUBSEA

Essar Projects was amongst the first few Indian companies that ventured into the challenging environment of offshore construction back in early 1980s. Over the years, we have provided services to the offshore sector for both shallow and deep waters and construction of offshore terminals, encompassing Survey, Design, Engineering, Procurement, Fabrication, Transportation, Installation and Hook-up & Commissioning of new well/process platforms; Modification and Refurbishment of existing Oil & Gas Platforms; Subsea Installations including laying of Subsea Pipelines (both rigid & flexible), Subsea Cables, PLEM and SPM. Some of the projects undertaken include:

- EPC of D1 Field of ONGC involving 3 SMART platforms, offshore pipelines, composite cables and PLEM
- EPC of NHRC project of ONGC, involving reconstruction of 8 offshore process complexes
- EPC of 93 km offshore pipeline and revamp of 21 platforms for ONGC
- EPC of SBM, PLEM, and 2 nos. of 10 km offshore Pipelines in the Gulf of Kutch, India
- EPC of 10.5 km outfall line & Diffuser for Bharuch Eco-Aqua Infra Ltd., in Gulf of Khambhat, India
- EPC of four unmanned wellhead platforms (C-26, B-12-1, C-23, B-173A-B) for ONGC
- T&I of SPM, pipeline, PLEM in Panna Field for British Gas
- T&I of FPSO Mooring System for Bumi Armada in ONGC Mumbai High C-7 Field , India
- Trenching, laying, testing & commissioning of 8 km South Bassein-Hazira Pipeline for ONGC
- T&I of 47 km pipeline with piggy back OFC from Saudi Arabia to Kuwait for Kuwait Gulf Oil Company (KGOC) in KJO field
- T&I of 28" OD pipeline from Malaysian Mainland Perlis to resort Island Langkawi for IPCO-ASAL, Malaysia



PIPELINES

With capabilities to design, plan and execute complex pipeline projects, Essar Projects has laid over 5,500 km of pipelines some of which were through toughest terrains. Some of key projects include:

Oil & Gas Pipelines

- Entire Gas Gathering System including Trunklines & Pipelines of up to 300 km & 35 Compressor Stations for CBM Field Development at Raniganj, West Bengal, India
- 28" Dia x 403 km Crude Pipeline – Salaya-Mathura Debottlenecking for IOCL, India
- 30" Dia x 200 km Bharuch-Jamnagar Gas Pipeline for Gujarat State Petronet Ltd. (GSPL), India
- 48" Dia x 330 km Vijapur-Dadri Gas Pipeline for GAIL (India) Ltd., India
- 24" Dia x 503 km Vadinar-Bina Crude Oil Pipeline for Bharat Oman Refinery Ltd. (BORL), India
- 30" Dia x 140 km Dahej-Uran Gas Pipeline for GAIL (India) Ltd., India
- 18" Dia x 550 km Mundra-Delhi Product Pipeline for Hindustan Petroleum Corporation Ltd. (HPCL), India
- 18" Dia x 141 km Koyali-Virangam Product Pipeline for IOCL, India
- 101 km Jalandhar-Amritsar Gas Pipeline of varying Dia (18" x 38 km; 16" x 42 km & 12.75" x 21 km) for GSPL India Gasnet Ltd. (GIGL), India
- 28" Dia x 94.6 km each of Inter Refinery Twin Pipelines for Jet A1 and Gas Oil from Ruwais to Mussafah for ADNOC Refining, Abu Dhabi, UAE
- 24" Dia x 110 km Condensate Pipeline from Habshan to Ruwais for ADNOC Gas Processing, Abu Dhabi, UAE

Slurry Pipelines

- 267 km (16" Dia x 210 km and 14" Dia x 57 km) Bailadila-Vizag and 20" Dia x 253 km Iron Ore Slurry Pipeline – with Associated Works, for Arcelor Mittal Nippon Steel (fka Essar Steel Ltd.)
- 24" Dia x 100 km Ambatovy Nickel Slurry Pipeline for SNC Lavalin at Madagascar
- 12" Dia x 3.5 km Slurry Pipeline at Minnesota for Essar Steel Minnesota Ltd.
- 26" Dia x 100 km Barbil-Dudipani Iron Ore Slurry Pipeline for JSPL

Water Pipelines

- 2300 mm Dia x 30 km Adundra Sujalam Sufalam Pipeline project for Gujarat Water Resources Development Corporation Ltd. (GWRDCL), Gujarat, India
- 2300 mm Dia x 51 km Dhanki-Navada Bulk Water Transmission for Gujarat Water Infrastructure Ltd. (GWIL), Gujarat, India
- 3035 mm Dia x 20 km Twin Pipelines, pumping station & allied works, for Sauni Yojana project of Narmada Water Resources Water Supply & Kalpsar Department (NWRWSKD), Gujarat, India



MINERALS & METALS

Essar Projects enjoys a distinct advantage in the Minerals and Metals Sector having created most of the assets for Essar Group's Steel Company, which involved an extremely high level of forward and backward integration. This enabled Essar Projects to forge a presence in every stage of the steel manufacturing process – from iron ore to rolling out the end product. and be considered amongst the the leading companies in delivery of steel plants. Some of the projects undertaken by Essar Projects include:

- 27 MTPA capacity Beneficiation and 21 MTPA Pellet Plant Projects, in India and USA
- 10 MTPA Integrated Steel Plant comprising of Hot Briquette Iron modules, Melting Shop, Hot Strip Mill, Cold Rolling Mills, Pickling & Galvanising Lines, Blast Furnace, COREX and DRI, for Essar Steel (now Arcelor Mittal-Nippon Steel Ltd.) at Hazira, India
- 1.5 MTPA Plate Mill (5 meter wide capability), at Hazira, India
- 0.6 MTPA Pipe Mill with H-SAW, L-SAW & Coating Plant at Hazira, India
- Thick & Thin Plate Facility Equipment Erection and Blast Furnace Revamping at Rourkela and BOF/CCP Equipment Erection at Bhilai for Steel Authority of India Ltd. (SAIL), India
- Blast Furnace Revamping at Raigarh and Construction Works for Steel Plant at Angul for Jindal Steel & Power Ltd. (JSPL), India
- 200 TPH Coke Dry Quenching Plant and Structural works for 6 MTPA Steel Plant for Tata Steel at Kalinganagar, India
- 300 TPD Lime Plants for Chemical & Mineral Industries Pvt. Ltd. (CMIPL) at Jodhpur and for Sigma Minerals Ltd. at Khimsar, India
- Blast Furnace Revamping from 2500 cum to 4300 cum for JSW Steel, at Dolvi, India
- 7.5 MTPA Iron Ore Project for Glencore, Mauritania
- Detailed Engineering, Procurement support and Construction Supervision for 4.5 MMTPA Pellet Plant for Vale at Sohar, Oman
- Detailed Engineering, Procurement support and Construction Supervision for 15 MMTPA Iron Ore Distribution Centre and FEL Study Report for 90 MMTPA Iron Ore Distribution Centre for Vale in Malaysia
- Engineering & Constructions works for Pellet Plant, Caster and Utility Piping for 6 MTPA Expansion of the Steel Plant for JSPL, at Angul, India
- Engineering & Construction works for Steel Plant Project of Rungta Mines Ltd at Chaliyama, India
- Engineering & Construction works of CPU and Stacker-cum-Reclaimer at JSW Mines at Keonjhar, India



INFRASTRUCTURE

The history of infrastructure construction at Essar Projects starts with the genesis of the Essar Group. Being India's first few Independent Marine Contractors, Essar Projects has established its capabilities and skillsets in EPC Works in Ports, Jetties, Airports, Road, Buildings & Townships, Water Systems & Sewage Treatment Plants. Some of the major projects undertaken include:

Ports & Jetties

- 30 MMTPA Deep Draft all weather Port at Hazira, Gujarat, India
- 58 MMTPA Oil Terminal, Captive Jetties at Vadinar, India
- 20 MMTPA Coal Jetty at Salaya, Gujarat, India
- Ro-Ro Terminal at Dahej & Gogha for Gujarat Maritime Board (GMB), India
- 18 MMTPA Deep Draft Coal Berth at Paradip Port, India
- Upgrade of Material Handling Facilities at Vizag Outer Harbour for Visakhapatnam Port Trust, India
- Nhava Development Project with 500 m Berth on Caissons for ONGC Supply Base, Uran, India
- 1050 m Island Breakwater for Kakinada Port; Outer Breakwater for Chennai Port and Dredging & Rock Blasting works for Mumbai, Nhava Sheva, Mormugao, Visakhapatnam & Kandla Ports
- Kaladan Multi Modal Transit Transport Project in Myanmar
- Dredging & Fishing Harbours in Sri Lanka

Buildings & Townships

- Township at Hazira, including Mix Land Use Development/ Land area – 350 acres (140 hectares); Built up area (Commercial & Residential) – 25,00,000 sq. ft. and 1,597 residential units
- Township at Vadinar, including Mix Land Use Development/ Land area – 60 acres (24 hectares); Built up area (Commercial & Residential) – 5,00,000 sq. ft. and 342 residential units
- Interplant and Township Road Network at Hazira & Vadinar
- Kapal Haus Mixed Use Development for WHDC, at Mount Hagen, Papua New Guinea
- Temporary Provincial HQ and other utilities at Jiwaka, Papua New Guinea

Water Systems & Sewage Treatment Plant

- Construction of 70 MLD Sewage Treatment Plant for Jamnagar Municipal Corporation, Gujarat, India

Airport

- Komo Airport Project, for Exxon Mobil's PNG LNG Project in Papua New Guinea
- Runway, Pavements and Taxiways of the Kagamuga Airport at Mount Hagen, Papua New Guinea (PNG) for National Airports Corporation (NAC), PNG

Roads

- City Roads in Mount Hagen, for Western Highlands Dept. of works, Papua New Guinea
- High altitude (5260 ft to 5670 ft above MSL) road from Sipil to Jimi in Papua New Guinea



POWER

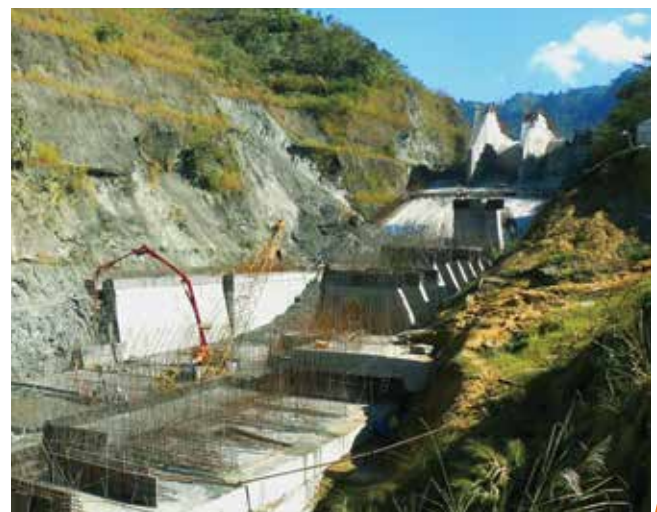
Essar was the first Indian private player to set up an Independent Power Plant and to obtain a power transmission license in India. This laid strong foundations of multi-fuel power plants execution capabilities, building a portfolio of gas-based, coal-based, oil-fired as well as hydroelectric power projects for Essar Projects, Which has - delivered over 3900 MW of power generation capacity till date. till date. Some of the projects undertaken include:

Thermal (Coal, Gas, Oil and Multi-fuel) Power Projects

- India's First New Generation Multi-fuel 515 MW Power Plant at Hazira, India
- 500 MW Natural Gas fired Combined Cycle Captive Power Plant at Hazira
- 2 x 135 MW Imported Coal & Corex Gas Fines Based Captive power Plant at Hazira
- 77 MW (120 MWe) Refinery Residue Based Multi-fuel Captive Cogeneration Power Plant at Vadinar, India
- 220 MW (380 MWe) Gas Based Combined Cycle Captive Cogeneration Power Plant at Vadinar
- 325 MW (510 MWe) Multi-fuel (coal, naphtha, light cycle oil, clarified slurry oil and furnace oil) Co-generation Power Plant at Vadinar
- 2 x 600 MW Coal Based Power Plant at Salaya, Gujarat, India
- 2 x 600 MW Coal Based Power Plant at Mahan, Madhya Pradesh, India
- 4 x 30 MW Coal Based Power Plant at Paradip, Odisha, India
- 25 MW Coal Based Captive Power Plant at Visakhapatnam, Andhra Pradesh, India
- 2 x 500 MW Lignite Based Power Plant for Neyvile Lignite Corporation Ltd. at Neyvile, Tamil Nadu, India

Hydro-Electric Power Projects

- 2 x 30 MW Pallivasal Extension Scheme of the Kerala State Electricity Board (KSEB), on the river Mudirapuzha of Periyar basin in Idukki district, Kerala India
- Tural Hydro Electric Power Station for North Eastern Electric Power Corporation Limited (NEEPCO) in Assam, India



SUPPORTING FACILITIES

HEAVY ENGINEERING & FABRICATION FACILITIES

Essar Projects has access to a state-of-the-art fabrication facility which manufactures & fabricates a wide range of engineered-to-order heavy equipment. It deploys the latest in technology in line with industry standards for complex chemical process equipment, Boilers structures, Offshore structures, etc. We have a complete repertoire of professional design engineering, welding processes and qualified manpower with right knowhow and experience to execute diverse requirements from clients. Meticulous attention is attributed to quality and standards

- Fabrication facility with a waterfront
- Equipment Fabrication Capacity: 15,000 MTPA
- Structure Fabrication Capacity: 40,000 MTPA
- Product Range includes:
 - Pressure Vessels, Columns, Reactors & Heat Exchangers for Fertilizer Plants, Refinery, Petrochemical Industry
 - Steel & Power Plant Equipment
 - Modules , Skids, Technological & Fabricated Structures
- Major clients and Licensors include FLSmidth, Zeeco, Air Product, Bechtel, KBR, Haldor, Topsoe, Fluor, ADNOC Refining, ADNOC Onshore, Linde, Saipem, Reliance, BPCL, IOCL, NPCIL, NTPC, Hitachi, Technip, Toyo, Tecnimont, UHDE, UOP, Siemens, Alstom, Danieli, Voith Hydro, L&T-MHI, ONGC, Rio Tinto, etc.



EQUIPMENT BANK

Essar Projects has access to specialized and sophisticated equipment bank encompassing large Heavy Lifting and over 500 other types of cranes – including Crawler cranes with capacity upto 1600 T; Goliath, Pick & Carry and Tower Cranes; Heavy Earth Moving Equipment; Hydraulic Piling Rigs; Batching Plants, Transit Mixers and Concrete Pumps; Automatic Welding Machines; Power Generation Equipment; Automotive Commercial Vehicles, Trailors, Trucks & Tippers.



ENGINEERING, PROCUREMENT, (EPCO) VALUE CHAIN

ENGINEERING

Essar Projects has its own multidisciplinary skilled & experienced Engineering & Project Management – arm with a High Value Engineering Execution Centre in India. It provides a comprehensive array of value added technical services, in a structured manner, across diverse sectors like Refineries, Petrochemicals, Tankages, Steel plants, Power plants, Ports, Pipelines, Offshore and Infrastructure.

Proactive & adaptive engineering methodology enables the Division to customize its services to align with dynamic market needs and efficiently meet the goals & challenges of business and projects. State-of-art IT infrastructure, allows the engineers to virtually walk through a plant whilst carefully studying each structure, thereby enhancing adaptability in shaping of operations to client specific requirements.

The Division is geared to service global clients – both public & private sector – by providing end-to-end engineering solutions on a nut & bolt concept, covering:

- Conceptualization of the project
- Techno-commercial Feasibility Reports
- Preparation of EPC Documents
- Assistance for Financial Closure
- Basic & Front End Engineering
- Detail Engineering on Nut & Bolt Concept
- Procurement Specifications & Assistance
- Project Planning & Scheduling
- Capex & Debottlenecking of Operation Plants
- Project Management Consultancy
- Lender Engineering
- Commissioning & Site Assistance
- 3D Plant & Engineering Analysis



PROCUREMENT

Competitively sourced equipment and material is a key component in the successful delivery and completion of every EPC contract. Essar Projects' investment in key supplier relationships over the years has translated into a strong vendor network, which enables us to offer competitive pricing as well as managing supply constraints. Our procurement team operates in Center of Excellence (CoE) concept specializing in every aspect and eventually providing end-to-end procurement services.

Highlights of our Procurement Capabilities are:

- Value engineering
- Handled capital procurement worth more than for major projects across varied sectors like Refinery, Petrochemicals, Steel, Power, Pipelines, Civil & Building
- Early commitment to long lead items with upfront engineering/ quality approvals
- Entire procurement process managed in an integrated manner through state-of-art systems like Marian, Ariba, SAP, MM, PS, FICO
- Functional expertise extending to Commodities, Cost-Model Analysis, Total Cost of Ownership (TCO) framework, Comprehensive Vendor Research

CONSTRUCTION, OPERATIONS

CONSTRUCTION

With over four decades experience in construction industry, Essar Projects has honed its abilities to deliver large and technically complex projects with quick turnaround time, across diverse geographies in Asia, Middle East, Africa, Europe, America and Oceania

In many cases the teams have efficiently overcome local challenges pertaining to socio-political conditions, logistics and availability of resources, apart from working with various technology suppliers in Hydrocarbon, Steel Plant and Power Sectors.

Our construction management philosophy revolves around optimizing productivity and cost through the application of innovative construction methods and advanced project management tools and information systems Easy access to Equipment Bank and Fabrication facilities with water front, are added advantages to achieve time & cost competitiveness.



OPERATIONS

Active participation in initial operations & maintenance through the stabilization phase of the Refinery, Steel Plants, Power Plants, Pipelines and Ports executed for Group companies has helped Essar Projects sharpen its skillsets, adding the O&M experience in EPC execution of Turnkey projects. Unlike other EPC contractors, Essar Projects is therefore able to extend EPC from concept to commissioning and beyond. Some key areas where our O&M experience helps enhances EPC works are:

- Optimization of Overall Plant layout.
- Failure Modes and Effects Analysis (FMEA), Failure Modes Effects and Criticality Analysis (FMECA) and Hazards and Operability Analysis (HAZOPS) and HAZIDS.
- Selection of the best proprietary/process equipment.
- Execution of Brown Field projects.
- Optimization of CAPEX & OPEX.

Operational experience has been one of the key differentiators in the award and execution of many EPCM service contracts.

MANAGEMENT INFORMATION SYSTEMS

Over the years, state-of-art IT systems has enabled innovative project delivery methods, progress monitoring, predictability and control through:

- Use of SAP across all procedures for ERP
- 3D modelling, Marian, Simulation are used to generate clash-free designs, thereby reducing re-work
- Use of Primavera for Project Planning and Scheduling
- Use of eProcurement Solutions
- Use of eInvoicing Solutions for online Vendor Accounting
- Use of StruMIS, Marian and WRENCH for Construction Management
- Project monitoring & tighter control of supply chain and Integrated Project Management through integration of WRENCH, SAP & Primavera
- Use of RICAGO for RISK & Statutory Compliance Management
- Effective Management Reporting through SAP BI/BO systems
- Use of Collaboration and Document Management Systems

QUALITY, HEALTH, SAFETY & ENVIRONMENT

Quality

Essar Projects is committed to the implementation of a management system that meets the requirements of ISO 9001:2015. We recognize the importance of achieving good standards of quality control and the impact this has on the sustainability of our business.

Health, Safety & Environment

Essar Project's health, safety and environmental (HSE) sustainability culture, is driven by our uncompromised core values. Essar approaches HSE from a solid foundation of industry standards and knowledge gained with decades of experience in safe project delivery. Our HSE performance has been certified to ISO 14001:2015 & ISO 45001:2018.

Cumulative Man-hours worked across all sites (since 2005)	1.05 Billion
Average Lost Time Incident Frequency Rate (LTIFR) (Global Industry Average: 0.2)	0.013
Total Recordable Incident Frequency Rate (TRFR) (OSHA USA Rate: 2.8)	0.077

Essar Projects is a member of the British Safety Council and committed to keeping people safe and healthy at work.

Recent Safety Awards:

- International Safety Award 2021, by the British Safety Council for commitment towards preventing workplace injuries and work-related ill health at the KIPIC Al-Zour Refinery Project Site
- Essar-Saipem Joint Venture received HSE Award from Project Sponsors for achieving 50 Million Safe Man-hours without Lost Time Injury, 1st November 2020
- Winner of the KIPIC CEO HSSE Award 2017-2018, KIPIC Al-Zour Refinery Project, Kuwait
- "Five Star Occupational Health & Safety Management System Audit Award", awarded by the British Safety Council for – Jurong Aromatics Complex Project, with world-class, overall audited score of 93.7%
- Best Contractor HSE Award in Project Category, December 2014, awarded by TAKREER Safety Award from BOROUGE on achieving 1 million safety man-hours without LTI (lost time incidents) for PECGC Project



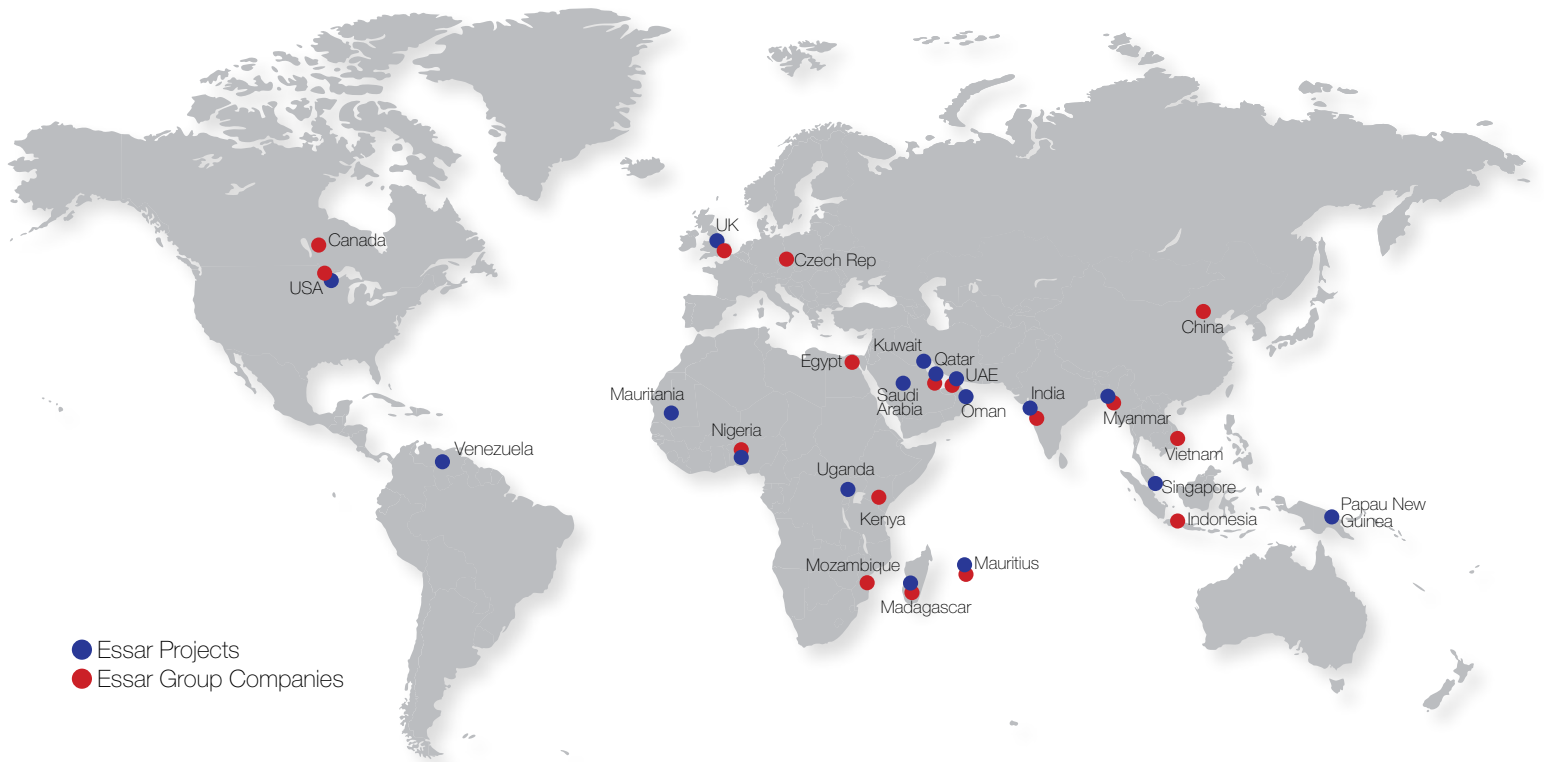
ORGANISATION STRUCTURE

ESSAR PROJECTS

OPERATIONS		SUPPORT FUNCTIONS
INDIA	OVERSEAS	HEAVY ENGINEERING & FABRICATION
ENGINEERING		EQUIPMENT BANK
PROCUREMENT		FINANCE & ACCOUNTS
CONSTRUCTION		HUMAN RESOURCES
PLANT OPERATIONS		QUALITY & HSE
PROJECT MANAGEMENT		INFORMATION TECHNOLOGY
		BUSINESS DEVELOPMENT
		LEGAL & COMMERCIAL

Our Major Clients

ExxonMobil Asia (Earlier Jurong Aromatics Pte. Ltd.)	Kuwait Integrated Petroleum Industries Company (KIPIC)
ADNOC Refining (Earlier TAKREER)	ADNOC Gas Processing (Earlier GASCO)
BOROUGE	Saudi Aramco
Kuwait Gulf Oil Company (KGOC)	Petróleos de Venezuela, S.A. (PDVSA)
Government of Papua New Guinea	British Gas
Bharat Petroleum Corporation Ltd. (BPCL)	Indian Oil Corporation Ltd (IOCL)
Oil & Natural Gas Corporation Ltd. (ONGC)	Hindustan Petroleum Corporation Ltd. (HPCL)
Gas Authority of India Ltd. (GAIL)	Gujarat State Petronet Ltd. (GSPL)
North Eastern Power Corporation Ltd. (NEEPCO)	Bharat Oman Refinery Ltd. (BORL)
Bharat Heavy Electricals Ltd. (BHEL)	Kerala State Electricity Board (KSEB)
Neyvile Lignite Corporation Ltd.(NLC)	Jamnagar Municipal Corporation
Narmada Water Resources Water Supp. & Kalpsar Dept. (NWRWSKD)	Gujarat Water Resource Development Corp. Ltd.(GWRDCL)
Gujarat Maritime Board (GMB)	Ministry of External Affairs, Government of India
Steel Authority of India Ltd (SAIL)	Tata Steel
Jindal Steel & Power Ltd. (JSPL)	JSW Steel Ltd.
Indian Farmers Fertilizer Cooperative Ltd (IFFCO)	



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