

Refinery Units - Project References

Year of Order	Customer	Plant Location	Plant / Product	Capacity (TPA)	Licensor	Services Rendered
2020	Praxair India	Paradeep	Feedstock Conversion (Naphtha to Natural Gas) of Hydrogen Generation Unit	-	tkIS	E (Basic Engg), Cost Estimate
2019	HPCL-Mittal Energy (HMEL)	Bathinda	Fluid Catalytic Cracking Unit (FCC) Revamp	2.2 to 2.05	Technip MMTPA FMC	E (Detail Engg)
2019	Mangalore Refinery and Petrochemicals	Mangalore	Wet Scrubber System for Petrochemical Fluidised Cracking Unit (PFCC)	-	-	FEED, PMC
2019	Praxair India	Orissa (IOCL Paradeep Refinery)	Process Condensate Convection Coil for Hydrogen plant	-	tkIS	E (Detail Engg), S
2019	Bharat Petroleum Corporation	Mumbai (Mahul Refinery)	Kerosene Hydrotreater	1.5 MMTPA	Haldor Topsoe	DFR, EPCM
2018	Bharat Petroleum Corporation (GR Engineering)	Kochi	CCR Cyclemax Regeneration package for BS VI MS Block Project	0.8 MMTPA	UOP	E (Detailed)
2017	Indian Oil Corpn.	Odisha (Paradip Refinery)	BS VI Quality Upgradation Project			EPCM
			Hydrogen Generation Unit	60 KTA	Linde	
			Kero Hydro Desulphurisation Unit	300 KTA	IOCL, EIL (R&D)	
			DHDT Revamp	5.2 MMTPA to 6.24 MMTPA	Shell	

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			Vacuum Gas Oil Hydrotreating (VGO HDT)	Quality Revamp thru' Catalyst change	Axens	
2016	Indian Oil Corpn.	Assam (Bongaigaon Refinery)	Indmax FCC Unit	0.740 MMTPA	ABB Lummus	FEED, PMC
			Gasoline Desulphurisation Unit (Prime G+)	0.246 MMTPA	Splitter: Axens	
				HDS Section: 0.155 MMTPA		
			Offsites & Utilities	-	-	
2015	Chennai Petroleum Corpn.	Chennai (Manali Refinery)	Diesel Hydro Desulphurisation Unit Revamp	1.8 to 2.34 MMTPA	Axens	DFR, EPCM
2015	Indian Oil Corpn.	Baroda (Gujarat Refinery)	BS IV Quality Upgradation Project			
			DHDS Revamp	1.77 to 2.3 MMTPA	EIL	DFR, EPCM
			DHDT Revamp	2.2 to 2.86 MMTPA	EIL	
			VGO-HDT	2.1 to 2.76 MMTPA	UOP	
2015	IBN-Zahr (Saudi European Petrochemical Co)	Saudi Arabia	Air Pre-heater (replacement)		- -	Process Design Package, FEED
2014	BioNext (tkIS AG)	France	Biomass to Liquid (Gasification)	5,000 Nm ³ /hr (Syngas)	tkIS AG	E (Detail Engg)
2013	Sasol Synfuels (Pty) [tkIS SA]	South Africa	Secunda Clean Fuels 2 Project		- Various	E (Basic Engg)
2011	Indian Oil Corpn.	Baroda (Gujarat Refinery)	Conversion of Hydrogen Generation Unit 1 from Naphtha to Natural Gas	38000 Nm ³ /hr	Linde	EPCM

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2010	SABIC	Saudi Arabia	Benzene Mitigation Project		- By Client	FEED
2009	Praxair India (for Indian Oil Corpn.)	Orissa (Paradip Refinery)	Hydrogen plant	100,000 Nm ³ /hr	Uhde	EPC-LSTK
2009	Bharat Petroleum Corporation	Mumbai (Mahul Refinery)	Naphtha Hydrotreater, Continuous Catalytic Regeneration Reformer	1.2 MMTPA 0.9 MMTPA	Axens	EPCM
2009	Indian Oil Corpn.	Orissa (Paradip Refinery)	VGO-HDT Unit DHDT Unit Hydrogen Compression Distribution System	5.4 MMTPA 5.2 MMTPA	Axens Shell Global - Foster Wheeler	EPCM
2008	Mangalore Refinery and Petrochemicals	Mangalore	Crude Distillation Unit, Vacuum Distillation Unit Gas Oil Hydro Desulphurisation unit	3.69 MMTPA 4.8 MMTPA	Engineers India to GOHDS: Axens 4,000 to 5,200 tpd	PMC EPCM
2008	Bongaigaon Refinery & Petrochemicals (Indian Oil Corpn.)	Assam (Dhaligaon)	Fractionation Unit Isomerisation Reformer De-heptaniser, Parex Unit - for Motor Spirit Quality Upgradation	224,000 167,280 160,000	Engineers India	EPCM
2008	Indian Oil Corpn.	Assam (Guwahati Refinery)	Indmax Gasoline Splitter Light Naphtha Splitter Isomerisation Unit - for Motor Spirit Quality Upgradation	55,000 75,000 45,000	Axens Lurgi Axens	EPCM
2008	Indian Oil Corpn.	Assam (Digboi Refinery)	Naphtha Splitter Reformate Splitter Isomerisation Unit - for Motor Spirit Quality Upgradation	130,000 82,000 47,000	Axens	EPCM

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2008	Indian Oil Corpn.	Baroda (Gujarat Refinery)	VGO-HDT ATF FCC LPG Merox & associated facilities for residue upgradation & Motor Spirit / HSD quality improvement	2.1 MMTPA 200 TMTPA 225 TMTPA	UOP	EPCM
2007	Reliance Petroleum	Jamnagar	Refinery Offsites Packages	- -		E (Detail Engg)
2005	China National Offshore Oil Company (Uhde GmbH)	China	Hydrogen plant	2 x 100,000 Nm ³ /hr	Uhde	E (Basic Engg)
2005	Essar Oil / ICICI Bank	Vadinar	Refinery - Lenders Engineering	-	ABB Lummus	E (Detail Engg)
2004	Neste Oil Oyj (Uhde GmbH)	Finland	Hydrogen plant Reformer	153500 Nm ³ /hr	Uhde	E (Detail Engg)
2004	Mangalore Refinery and Petrochemicals	Mangalore	Offsites & Utilities for Main Refinery Expansion Project	- -		EPCM
2003	Kuwait National Petroleum Corpn., MAA Refinery (ISCO, Kuwait)	Kuwait	Implementation of Hazop Studies of Refinery Units	- -		E (Detail Engg)
2003	UD-Koch-Glitsch Project (Uhde GmbH)	Belarus	Hydrogen plant Reformer	39,000 Nm ³ /hr	Uhde	E (Detail Engg)
2003	Indian Oil Corpn., Gujarat Refinery	Baroda	Motor Spirit Quality Upgradation	- -		FEED, PMC
2003	Kuwait National Petroleum Corpn. (ISCO, Kuwait)	Kuwait	Enhancement of Local Marketing Distribution facilities	- -		E (Detail Engg)
2002	Reliance Petroleum	Jamnagar	Offsites & Utilities	-	Open Art	E (Detail Engg)
1998	BASF AG. (Uhde GmbH)	Belgium	Benzene / Toluene (Extractive Distillation of Pyrolysis Gasoline)	0.68 MMTPA	Uhde / BASF	E (Detail Engg)

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1998	Saras Refinery (Parsons, U.K.)	Italy	Mild Hydrocracker	55,000 blpd	ABB Lummus / Shell	E (Detail Engg)
1998	Indian Oil Corpn., Gujarat Refinery (Petrofac, Sharjah)	Baroda	Sulfur Recovery	2 x 35 tpd	Stork / UOP	E (Detail Engg)
1997	Indian Oil Corpn., Panipat Refinery (Larsen & Toubro, India)	Panipat	Diesel Hydro Desulphurisation	0.7 MMTPA	IFP	E (Detail Engg)
1997	Titan Petrochemicals (Uhde GmbH)	Malaysia	Aromatics plant (Extractive Distillation of Reformate)	232,000	Uhde	E (Detail Engg)
1995	Mangalore Refinery and Petrochemicals	Mangalore	Visbreaker (Duplication)	2,300	ABB Lummus	EPCM
1993	Mangalore Refinery and Petrochemicals	Mangalore	Visbreaker	2,300	ABB Lummus	EPCM

Abbreviations (Services Rendered)

E (Basic Engg), E (Detail Engg), P = Procurement, EPCM = Engineering, Procurement, Construction Management, PS = Proprietary Supplies, CS = Construction Supervision, COS = Commissioning Supervision, EPC-LSTK = Engineering Procurement Construction - Lumpsum Turnkey, FEED - Front End Engineering Design, PMC = Project Management Consultancy, DFR = Detailed Feasibility Report