Solutions for Heavy Oil Upgrading

Key Issues in Oil Refining
Chiyoda is continuously monitoring energy trends and worldwide environmental considerations in order to provide optimum solutions for the oil refining business. Chiyoda’s aim in solving these issues is to increase refinery values and margins and enhance long term business security.

Growing Demand for Development of High Sulfur Heavy Crude and Non-conventional Oil

Stringent Environmental Requirements / Regulations

More Demand for Lighter Distillate Products

Chiyoda’s Solution
Master planning and feasibility studies to provide optimized solutions for grassroots refinery, expansion, revamping and petrochemical integration by utilizing end-to-end purpose technologies.

Heavy Oil Upgrading
- Ultimate Hydrocracker by KURIG-CSI SPH
- Residual Oil Conversion by SYREX
- Bottomless Refinery by EUBEXA = Gasification
- Synthetic Crude Production by CITMox
- Hydrogen Management

Technologies for Environmental Issues
- Carbon Lifecycle Engineering
- Ultra-deep Desulfurization by Hybrid Titanate Catalyst
- Am Gas Desulfurization by CT-DUCASRE
- Water Management

"Using Our Most Advanced Technologies for Your Future"
Chiyoda provides a wide range of services from the planning phase all the way through to EPC, O&M, expansion, revamping etc., with high standards in health, safety and environment awareness, based on our extensive experience, and our knowledge of project life cycle engineering.

Chiyoda’s Services

- Engineering
- Project Management
- EPC, O&M
- Expansion and Revamping
- Technical Services
- Construction
- Operation
- Maintenance

Refinery Technology Map

- Crude Distillation Unit
- Hydrocracking Unit
- Catalytic Reforming Unit
- Para-Xylene Unit
- Gasoline Selective Deasphalt Unit
- Extra-Deep Gas Oil Hydrodesulfurization Unit
- Hydrogen Manufacturing Unit

Major Experience in Refining

- Crude Distillation Unit 75
- Hydrocracking Unit 11
- Catalytic Reforming Unit 60
- VGO Hydrodesulfurization Unit 23
- Para-Xylene Unit 13
- Gasoline Selective Deasphalt Unit 7
- BTEX Extraction Unit 4
- Extra-Deep Gas Oil Hydrodesulfurization Unit 21

Chiyoda’s Refinery Experiences Worldwide

- Kuwait
  - 12,500 BPSD New Motor Split Production Facilities
  - 750,000 TPD North Refinery

- Egypt
  - 150,000 TPD Lube Oil Plant

- Oman
  - 3,000 BPSD VGO Hydrocracker

- Saudi Arabia
  - 103,000 BPSD Thermal Cracking Unit
  - 2,000,000 BTPD Lube & Resin Unit

- Turkmenistan
  - 750,000 TPD Catalytic Refiner

- Qatar
  - 144,000 BPSD Condecat Refiner

- Vietnam
  - 105,000 BPSD Refinery Unit

- Thailand
  - 1,000 TPD Gas Oil HDS
  - 5,000 TPD Hydrocracking

- Singapore
  - 60,000 BPSD Ultra Deep Desulfurization Unit
  - 100 TPD Sulfur Recovery Unit

- Malaysia
  - 100,000 BPSD Malaysia Refinery Project Phase 1

- Philippines
  - 65,000 BPSD Ultra Deep Desulfurization Unit

- South Africa
  - 50,000 BPSD Refinery Expansion

- China
  - 28,000 BPSD Thermal Cracking Unit

- South Korea
  - 100,000 BPSD Thermal Cracking Unit

- Venezuela
  - 277,000 BPSD Hydrodesulfurization Unit

- Ecuador
  - 55,000 BPSD Refinery Unit

- Mexico
  - 145,000 BPSD Abstraction Plant

- Kuwait
  - 28,000 BPSD Thermal Cracking Unit

- Iraq
  - 100,000 TPD No. 3 Petroleum Refinery

- Iran
  - 22,000 BPSD VGO Hydrocracker

- New Zealand
  - 3,000 BPSD Eureka Expansion

- China
  - 28,000 BPSD Thermal Cracking Unit

- India
  - 28,000 BPSD Eureka Expansion

As of Dec, 2016