WISON PROFILE

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Main Content

1. Overview of Wison Group
2. Wison Engineering Ltd
3. Wison Offshore and Marine
4. Wison Clean Energy
5. Questions and Answers
Business Sectors

Focus on the Energy Industry and high tech sectors

**Wison Group**

**Engineering Services**
EPC contractor
petrochemicals, coal chemicals and refining industries

**Offshore & Marine**
Word-class fabrication and engineering company
focusing on offshore drilling and production projects

**Clean Energy**
Using coal as feed stock
provides high quality industrial gases via clean coal technology.

**Investment Business**
Investment in natural resources (incl. oil & gas, LNG, coal and methanol);
Our History of Development

Starting from furnace pyrolysis projects in over two decades, Wison has grown to a diversified company.
Wison Engineering

- Largest private chemical EPC in China, Listed on HKEx Main Board
- Specializing in petrochemical, coal chemical, oil refining and technical services
- Established China’s largest ethylene cracking furnace tube manufacturing base
- Strong in coal-to-chemicals, MTO, ethylene cracking furnace and butadiene process techs with dozens of Intellectual property rights
Product Lines

**Refinery**
- FCC/RFCC
- CDU/VDU
- Hydrogenation, Hydro-treating, Hydro-cracking
- CCR
- Hydrogen Production
- Aromatics
- Sulfur Recovery

**Petrochemical**
- Olefins, ethylene
- PP/PE
- SSBR/SBS Rubber
- Butanol/Glycol
- Epoxy Propane
- MDI
- LNG (Gas Processing)

**Coal to Chemicals**
- Gasification: Syngas/CO/H₂
- Methanol/DME
- MTO
- MTP
- Ammonia/Urea
# Technology and R&D Capabilities

## Ethylene Cracking Furnace Technology

- Leading cracking furnace proprietary technology development & application
- Advanced quench oil viscosity reducing technology
- Precutting + oil absorption olefin separation technology
- Plant energy savings, consumption reduction, water saving and optimization analysis

## Engineering Application

### Cracking Furnace

- 150 achievements, 87 of which used Wison own cracking furnace technology
- Market share in China over 84%

### Ethylene and Downstream

15 large capacity olefin grass root and revamp plants in China, in E, EM+PC, EPC
## Technology and R&D Capabilities

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Holder of Patented Technology, Know-how and Process Package Design

- Ethylene Cracking Furnace Technology
- Olefin separation technology for MTO Plant
- New Hybrid Coal Gasification technology co-developed with Shell Global
- Proprietary Butene Oxidization and Dehydrogenation (ODH) to Butadiene Technology
- Synthetic Natural Gas (SNG) Technology (Coal to Natural Gas) co-developed with Foster Wheeler.
- Rectisol Process Technology (acid gas removal technology using Methanol as solvent)
- Energy Saving Technology for methanol plant
- WISON-Tianjing University R&D center for Energy and Chemical Technology
25 + refinery units experience

- 210 MBOD Crude Oil Refining Project, PDVSA, EPC + F, 10 units in total;
- 400 MBOD Oil Refinery Expansion Project, CNPC, PMC, 6 units in total;
- Qinzhou 200 MBOD Refinery Project, CNPC, EmPC, 2 units;
- Sichuang 200 MBOD Refinery and 100 KTA Ethylene Integrated Project, CNPC, EmPC, 7 units in total;
- Shandong Longgang 800 KTA Refinery Re-location Project, BED + DD;
- 3,000 KTA Refinery Re-location Project, Liaoning Yuantai, BED+DD;
- 120 KTA naphtha hydrotreating unit and 80 KTA aromatics project, Shenyang Wax company, BED + DD.
Partnership

Domestic and International Clients and Partners
Global Strategic Presence

In 2008 Wilson Engineering began to expand overseas, and has initially established a global sales network.
Major Experiences - Ongoing Projects

China
- Wison (Nanjing) Clean Energy Methanol Plant
- Shanmei/Sanxia Pucheng Coal Chemical
- CNPC Sichuan Petrochemical
- Chongqing MDI Integration Project
- Cathay Coal Chemical
- Jiangsu Sailboat Alcoho-based Poly-generation Project
- Sulfur Coal to Liquids & Heat to Electricity Integration
- Shanxi Lu'an Sulfur Coal to Liquids & Heat to Electricity Integration

Saudi Arabia
- SABIC No.9 Cracking Furnace Project

Venezuela
- PDVSA Puerto La Cruz Oil Refining Project
- RPLC Refining Project Site Preparation
- PDVSA RBSI Project
- PDVSA HPC Project
Major Experiences - Completed Projects

Saudi Arabia

- SABIC HADEED De-Bottlenecking (DBN)
- SABIC YANPET Benzene Mitigation Project

- Jiaozuo Coal Henan 70KTA PVC Plant
- CNPC Dushanzi Ethylene Cracking Furnace
- CNPC Lanzhou 460KTA Ethylene Cracking Furnace
- Henan Coal Zhongyuan Gasification 160KTA
- CNPC Guangxi Naphtha hydrogenation 2,500KTA
- Sinopec Guangzhou MTBE 54KTA
- Henan Shenma Chlorine Alkali Chemical
- Xinyang Huaiy Group Asian New Energy
- Sinopec Shanghai Ethylene Cracking Furnace
- Huachen Energy Zhejiang 6KTA NMP Plant
- Henan Gas Group Yima Gasification Plant
- Shenhua Guotai New 400KTA Methanol Project
- Xinjiang Xinlianxin Gas & Methanol Project
- Luoyang Ammonia Fertilizer Plant
- CNPC Daqing 16W Cracking Furnace
- CNPC Jilin 700KTA Cracking Furnace
- CNPC LiaoYang Olefin 60KTA
- BlueStar Shanxi 600KTA Methanol Plant
- CNPC Dalian 10MTA Refinery Extention Project
- SECCO Shanghai Ethylene Cracking Project
- PetroChina Fushun 800KTA Ethylene Plant
- PetroChina Sichuan 300KTA LLDPE Plant
- BlueStar Shanxi 1500KTA Methanol Project
- Henan Coal Gas Pipeline Project
- Donghua Shandong 600KTA MTO Project
- SECCO Shanghai Ethylene Cracking New & Revamping
- Sinopec Guangzhou MTBE Expansion 90KTA
- Sinopec Yangzi-BASF Liquid Cracking
- CNPC Daqing Ethylene Cracking Revamping
- Sinopec Guangzhou 1 New MTBE Unit
CNPC Dushanzi Petrochemical Project

- Largest petrochemical project in northwest China, of which the ethylene plant is the largest single plant in domestic
- 180 kt/a styrene-butadiene rubber plant; 600 kt/a full density polyethylene plant; 1,000 kt/a ethylene plant （Linde technology）in cracking furnace area
- 2006.10-2009.6.15
CNPC - Sichuan Refinery and Petrochemical Integrated Project

Services
- 600 kt/a aromatic joint plant
- 60 kt/a sulfur recovery joint plant
- 2.2 mt/a gas oil hydrogenation plant
- 300 kt/a LDPE plant
- 2 mt/a continuous reforming (including PSA) plant
- 1 mt/a cracking furnace & furnace pipe gallery
- Refining and petrochemical integration project chemical industry area utility & auxiliary production facilities

Contract Mode
EM+PC

Duration
Sep. 2009 ~ Jun 30th, 2013

Features
- The largest refining and petrochemical integration project in China in terms of investment to date
CSPC Ethylene Plant Expansion Project ((800 kt/a to 950 kt/a))

- Newly built ethylene cracking furnace 120 kt/a; furnace pipe-rack revamping and process tie-in project

- 2008.8.4-2010.3.31

- Use SSW patented technology; strictly follow owners’ design standards such as DEP, SP and etc.

- Managed by project management team consist of CSPC and FOSTER WHEELER, strictly follow international practice
SECCO - JV of BP - Sinopec
Long-term Engineering Service

Services
- Engineering Service for SECCO including ethylene plant, cracking furnace, butadiene expansion revamping project, PSA plant etc.

Contract Mode
- E

Duration
- Engineering service: Since December 2006
- Cracking furnace project: 2007.11.06 – 2009.03.31
- Butadiene expansion revamping project: 2009.04.01 – 2009.06.30
- PSA plant: 2011.06.15 – 2012.04.04
BASF-YPC Newly-Built Project, Revamping & Expansion Project

- Newly-built 192 kt/a ethylene cracking furnace 2008.7-2010.12

- A total of 10 ethylene cracking furnaces receive revamping, 2010.4 - 2013.3

- Use SS&W patented technology; world’s largest cracking furnace in terms of production capacity to date
CNPC Fushun Newly-built Ethylene Plant

- Fushun Petrochemical 800KTA ethylene plant
  2009.04.30- 2012.04.21
- S&W technology
Shandong Longgang

Services
800KTA Residue Oil Hydrocracking Project, including
Uniflex Unit,
Gasoil Hydrotreating,
Gas Recovery and Utilities

Features
- World first Uniflex Unit, Wison and UOP deliver BED package together

Contract Mode
BED + DD

Contract Duration
- 2013.09 – 2014.07
Lu’an integrated High Sulfur Contained Coal Chemical Complex

Services
- Coal Gasification
- Purification
- Overall Process and Offsites

Contract Mode
EPC

Duration
2013.2-2015.07

Features
5.4 million tpa of coal to liquids project inducing three phases, 1st phase 1.8 million tpa

BDEP together by Wison and Shell Global

Licensor
Gasification: Shell
Convection: Qindao Lianxian
Rectisol: Lurgi
Sulfur Recovery: Beijing Meijing
Fischer-Tropsch synthesis: Synfuels China
Shaanxi Pucheng - 700KTA Coal-based Ethylene and PE/PP Project

Services
- 300KTA Polyethylene Plant
- PE/PP Packing
- Offsite and Utility

Duration
- 2012.4-2014.11

Features
- Wison execute Basic Design

Licensor
- Univation
Sichuan Nanyun – Polymer and Nylon New Material Project

Services
- 1 million ton tpa PTA Plant
- Offsites and Utility

Contract Mode
EM+PC、EPC

Duration
2012.8-2014.07

Features
- after phase I complete, Phase II will include PET, PTT, PBT, Cyclohexane, cyclohexanone cyanohydrin, adipic acid, Nylon 66, Nylon6 and etc.

Licensor
INVISTA
BASF Chongqing MDI (Methylene Diphenyl Isocyanate) Integration Project

- The largest MDI project in the world. 400KTA Capacity
- Wison cooperate with Daelim, Project Value as 1.2 Billion USD
- Follow international Standard
Hadeed DR Module D Debottlenecking Project

HADEED DR Module D Debottlenecking /Expansion

(120 t/h to 155 t/h)

Location: Jubail Industrial City, KSA

Duration: 01 Apr 2012 – 29 June 2013

Licensor: HYL(Mexico)
HADEED DBN project team the best performer of 1st quarter 2013

WISON-SABIC HADEED DBN Project is the No.1 project performer among all SABIC Mega Projects in the 2013 first quarter Project Evaluation Audit from SABIC E&PM.

WISON-SABIC HADEED DBN Project successfully finished the MC on 29th of June, 2013, ahead of schedule.
Benzene content of YANPET benzene mitigation project waste water; benzene concentration of discharged waste water is lower than 57PPb

Location: Yanbu Industrial City, KSA

Duration: Apr. 10th 2012- 2nd April 2014 (MC)

Licensor: Stripping Column from Exxon Mobil
United Furnace 9 Project

**Services:** Newly-built 200 KTA Ethylene Cracking Furnace

**Location:** Jubail Industrial City, KSA

**Duration:** 25th July, 2013 to 24th April, 2015

**Licensor:** KBR SCORE I

**Competition:** Among Chiyoda, Tecninont, Etec, L&T
PDVSA Puerto La Cruz Refinery Project

Services
Provide EPC service for expansion from 89,000 BPSD to 210,000 BPSD
- Revamp
- CDU No.4-80,000 BPSD (Light MESA 30) to 80,000 BPSD (Heavy Meréy 16)
- CDU No.5-65,000 BPSD (Meréy 16) to 90,000 BPSD (Meréy 16)
- New
- VDU 65,000 BPSD x 2
- Hydrogen compression 80 MMSCFD x 5
- Hydrogen production 135 MMSCFD x 2
- Sour water stripper 1,881 GPM
- Amine regeneration 1,832 GPM
- SRU & Tail Gas Treatment 255 TPD x 3 SRU train (TGTU 2 train)
- Hydrogen recovery 100.6 MMSCFD
- Substation 230 kv
- Offsite & Utilities

Contract Mode
EPC + F

Contract Duration
- 2012.06.27 – 2016.12.30

- Total Investment is 3 Billion USD, Wison has financed 1 Billion USD

Features
- JV of HDEC+HEC+Wison
- First ever large-scale oil refining construction project undertaken by Chinese EPC company in Latin America
PDVSA Puerto La Cruz Refinery
Deep Conversion Project Site Preparation Project

Services
Provide EPC service for site preparation project

Features

- Largest Oil Refinery Project in Latin America Acquired by Chinese Engineering Company

Contract Value:
US$834million

Contract Mode
EPC + F
Integrated Solutions Delivered With Passion

Offshore & Marine
Wison Offshore & Marine

- Professional offshore and marine engineering contractor and manufacturer, provides complete solutions from FEED to EPCI
- Proven EPCI expertise in Fixed Platforms, Floating Production Storage and Offloading (FPSO) Vessels, FSRU, FLNG, Modules
- The addition of Wison Horton Deepwater greatly enhances the company’s R&D capability
Two Fabrication Yards

Zhoushan Yard

- First operation in June 2013; Fully operational 2014
- Covers an area of 1.49 million square meters with a coastline of 2160m
- A designated offshore and marine module manufacturing base with the highest level of automation and most advanced process

Nantong Yard

- Covers an area of 640,000 square meters
- 735 meters of the Yangtze River deep-water coastline and open-ton docks, equipped with a fully functional modern facilities
Key product lines (short & long-term):

Near Term Focus

- Modules / Offshore Topsides
- Floating Liquefied Natural Gas (FLNG)
- Floating Production Storage & Offloading (FPSO)
- Mooring Systems

Long Term Strategy

- Floating Production Unit (FPU) Hulls
- Offshore Supply Vessels (OSV)
- Drilling Rigs

Value Chain Target:

- Exploration
- Production
- Transportation
- Downstream
World Record: Exmar FLRSU project

- World first Floating LNG Liquefaction, Regasification and Storage Unit (FLRSU). 500,000 ton per annum
- End Client: Pacific Rubiales Energy
- Wison’s Client: Exmar Marine N.V.
- Site: Caribbean coast offshore Colombia
- Contract Award: April 2012
- Status: Under execution to be completed in 30 months
- Scope of Work: Engineering, procurement, construction, transportation, installation and commissioning
- In cooperation with Black & Veatch
Clean Energy

Sustainable Products
Crafted With Passion
Wison Clean Energy

- Leading domestic supplier of coal-based gases with stable operation
  Using coal as feedstock and employing cutting-edge clean coal technology
- Long-term supplier of high-quality gases, including methanol, sulfur, carbon monoxide, hydrogen
  and synthesis gas for its partners
  Using a variety of gas and methanol for integrating production with unique advantages and
  competitiveness
## The Nanjing Plant Overview

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<th>Phase I</th>
<th>Phase II</th>
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<tr>
<td><strong>Capacity Utilization</strong></td>
<td>99.5%</td>
<td>99.5%</td>
</tr>
<tr>
<td><strong>Coal Process Capacity</strong></td>
<td>1700 t/d</td>
<td>1700 t/d</td>
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<tr>
<td><strong>CO</strong></td>
<td>300KTA</td>
<td>300KTA</td>
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<tr>
<td><strong>Methanol</strong></td>
<td>200KTA</td>
<td>100KTA</td>
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### Phase III

- Shell new type coal gasification demonstration plant
- Wison Nanjing 300KTA MTO, the combined unit of 250KTA of butyl alcohol, to be operational in 2013
- Wison Nanjing 200 KTA of the EO, 3.5 KTA of $H_2$ facility
Thank you for your attention and interest in Wison.

Questions and answers.