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Coal to MEG **Changing the Rules of the Game**

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CHEMSYSTEMS Strategic Impact Assessment

2011 Prospectus

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PROSPECTUS May 2011

Coal to MEG

Changing the Rules of the Game

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SECTION 1.

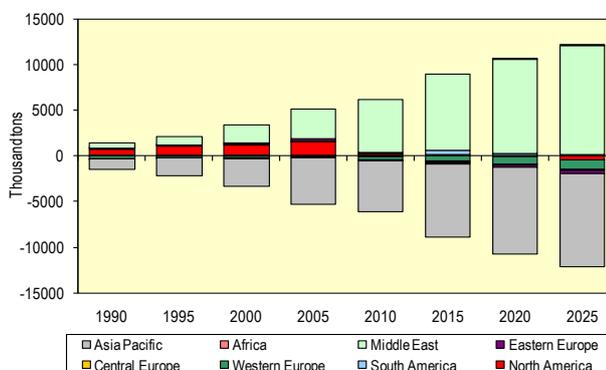
Strategic Implications for MEG



A. IMPACT ON THE GLOBAL MEG MARKET

Ethylene glycol (“MEG”) is an 18.9 million ton global market growing at on average at 3.7 percent per year. Around 72 percent of the market is focused on the Asia-Pacific region with China accounting for 60 percent of demand in this region. Today China imports over 5.0 million tons of ethylene glycol and imports more than 60 percent of its needs and is mainly supplied from the Middle East where much of the ethylene glycol produced is ethane based ethylene-derived. On a global basis over 35 percent of global MEG demand is met through international trade.

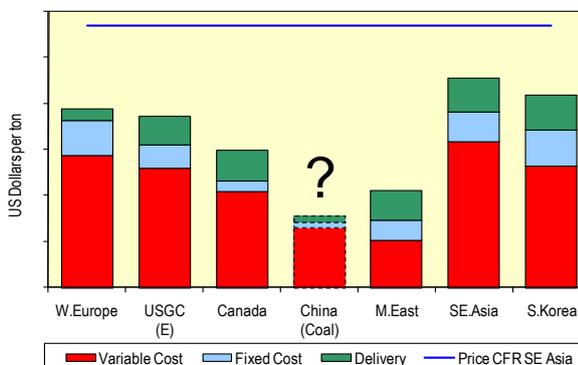
Global MEG Inter-Regional Trade – Business as Usual



00235/09.01.03.07/2010/MEG

Henan Coal Chemical Group and Tongliao Jinmei Chemical Industry have announced a joint commercialisation effort to convert coal into MEG via oxalic acid. So far plans have been announced for circa 1.8 million tons per year of new capacity in China. Four projects, each of 200 000 tons per year are already under construction with planned start up in Q3/2011. Sources in the Chinese market indicate that plans are in place to realise all the 1.8 millions of new capacity by end 2015.

Potential Cash Costs for Projected New MEG Supply, Q1/2010



B. FUTURE INTEGRATION PLATFORMS BEYOND COAL

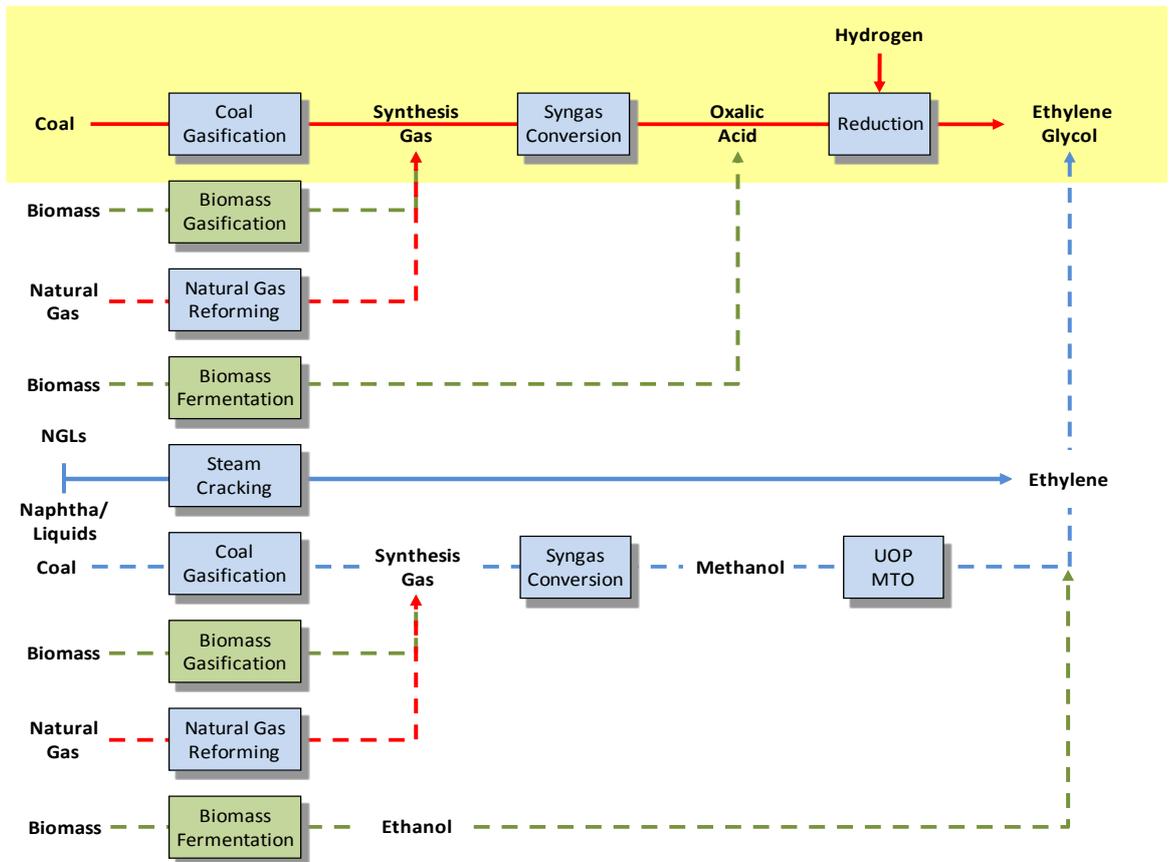
MEG today is ethylene derived via oxidation and hydration. The technology is well-known and available for license from Shell, Scientific Design, etc, and can be built at world-scale, i.e. greater than 500 000 tons per year. Ethylene is mainly derived from the steam cracking of natural gas liquids or heavier paraffinic liquids. There is some interest in Brazil in making ethylene from biomass-derived ethanol and in China investments are under to convert coal into olefins via methanol.

The current process involves the gasification of coal, practised worldwide, but most notably in China. It should be noted that in Kingsport, TN, in the United States, Eastman Chemical does also used coal gasification for acetyls production, indicating that certain coal based chemistries are commercially viable outside China.

The syngas provided by coal gasification has a low syngas number compared to natural gas. However, this suits the process of conversion to oxalic acid (empirical formula $C_2H_2O_4$, molar mass 90.03 g/mol) where the hydrogen to carbon ratio is much lower than say methanol, i.e. 1C:1H versus 1C:4H. Hydrogen is however, required for the conversion to MEG (molar mass 62.07 g/mol).

For around 200 000 tons per year of MEG, over 300 000 tons per year of oxalic acid will need to be made.

Potential Routes to Ethylene Glycol



The concept is not new in that during the 1970s and 1980s Union Carbide Corporation amongst others explored the opportunity to make MEG without ethylene. Within a Chinese context making MEG via oxalic acid enables production to be sited close to the mine mouth to exploit the benefits of the Chinese coal supply chain. A methanol to olefins (“MTO”) based approach could do the same in China, but more steps are involved. However, within the MTO process oxygen is removed from the methanol to make the ethylene hydrocarbon. This needs to be added back in subsequent steps to first make ethylene oxide and then MEG. The new process is potentially less wasteful in oxygen.

These are dynamic and exciting times for the industry that bring with them a wealth of opportunities for existing and prospective players in the MEG market. To succeed in capitalizing on these opportunities or assuaging ensuing threats, it is crucial to understand the drivers and mechanisms that are shaping the changes in this industry. In particular, the previous global price-setting mechanism may break down and a new paradigm pricing mechanism could emerge.

Nexant’s wealth of experience in the MEG and derivatives sector, combined with our wider global presence in the upstream oil & gas, refined products, coal to chemicals and petrochemical industries, provides us with a unique overview of all factors influencing the development of the MEG business worldwide. The study will distill the key issues and insights from our accumulated expertise to provide subscribers with a good understanding of not only the fundamental drivers but also the likely future strategic direction of the industry in the light of this technology development. We believe this will be an invaluable source of insight and strategic business analysis for executives and managers at all levels of the MEG business.

Nexant’s Unique Blend of Capabilities

STRATEGY CONSULTING	UPSTREAM OIL & GAS PRACTICE
<ul style="list-style-type: none"> ▪ Distilling key trends to understand businesses ▪ Portfolio appraisal and positioning ▪ Merger & acquisition support ▪ Customer segmentation ▪ Manufacturing Strategy ▪ Value chain positioning ▪ Growth Strategy ▪ Industry structure analyses 	<ul style="list-style-type: none"> ▪ Global gas availability and pricing ▪ Strong experience of alternative gas monetization options including LNG, GTL, ammonia and power ▪ National and regional energy planning ▪ Oil & gas development projects ▪ Upstream oil & gas asset management ▪ Gas value chain analyses
CHEMICALS PRACTICE	COAL TO CHEMICALS CONSULTING
<ul style="list-style-type: none"> ▪ Strong understanding of methanol and derivative markets, technology and economics ▪ Strong olefins experience and active MTO/MTP evaluation engagements ▪ Market dynamics research and analysis and forecasts ▪ Pricing and profitability scenarios ▪ Performance benchmarking ▪ Cost curve assessments ▪ Techno-economic feasibility studies 	<ul style="list-style-type: none"> ▪ Detailed technical and cost analysis of coal based chemistry via coal gasification to syngas and subsequent conversion into chemicals ▪ Extensive experience in China and other countries, e.g. India, in to coal to chemicals, poly-generation and gasification ▪ Detailed knowledge of alternative coal based chemistries and processes via coal tar-based chemicals and acetylene-based chemicals

SECTION 2.



Threat or Opportunity?

This study provides a valuable aid for strategic planning purposes, at a time of both opportunity and challenge for players and prospective entrants into the global MEG business. It combines a review of the new coal-derived process and future configurations with natural gas, etc, as well as analysis of future market dynamics for MEG for the short, medium and long-term outlook for the business. The study also provides key insight to the reader as to whether the coal to MEG development poses a threat or provides a new opportunity:

Is Coal to MEG a THREAT?

- **Trade:** Subject to the competitiveness of coal based MEG, what will be the impact of a major loss of Chinese import volumes?
- **Product Placement:** Where will the Middle East ethane-based producers seek to place their MEG exports in future if China is no longer the target market?
- **Competitiveness:** What are the implications for other MEG exporting countries based on higher cost olefin platforms?
- **Profitability:** How will major investments in coal to MEG impact the profitability of existing producers?
- **Pricing:** What are the implications of the scale and location of new projects on future product pricing?
- **Technology:** What is the impact of technology availability outside China to marry with non-coal-based syngas platforms?
- **Industry Structure:** How will the industry evolve over the next decade?

Is Coal to MEG an OPPORTUNITY?

- **Feedstocks:** What if syngas to MEG can be married effectively with reformer or biomass platforms? Will widespread licensing to stranded gas regions provide new investment opportunities in Africa, Middle East, etc?
- **Logistics:** What are the future requirements for MEG shipping? Will freight costs continue to soar? In addition, if MEG can be made a > 5000 tons per day from stranded gas, are new ships needed for inter-regional trade?
- **Product Development:** Could a move away from ethylene-driven economics lower MEG prices to make polyester even more competitive against other commodity polymers?
- **Capacity development:** What are the implications for the industry of the trend toward what could be very large non-ethylene-based MEG capacities? How sustainable is the current rate of capacity addition? Where will future capacity be built?
- **Capital costs:** Is it only the Chinese that make this process viable. Maybe capital costs are too prohibitive outside China?
- **Product prices:** What will replace the old price-setting mechanism? What determines the new boundaries?

SECTION 3.



Scope of the Study

The study **Coal to MEG – Changing the Rules of the Game** is available in two volumes:

- **Volume 1: Strategy Impact Analysis**, exploring strategic implications for the MEG industry as a consequence of Chinese investment into **Coal to MEG**
- **Volume 2: Technology Evaluation**, exploring the new process, its marrying with coal and non-coal syngas platforms and its cost impact

The reports can be bought separately or together a single subscription. Your subscription will include:

- One hard copy of the full report (reports if both volumes 1 & 2 are purchased) and unlimited downloads of respective softcopies from the ChemSystems web site.
- Access to desk-based support from our consulting staff.

The issues examined in the study are described in outline as follows:

Volume 1 - Strategic Trends and Challenges

This analysis is both quantitative and qualitative, building upon the trends identified in the market and economic analysis. Hypotheses are developed and investigated in order to provide answers to the questions facing the industry as a consequence of the Chinese investment in coal to MEG technology. Nexant is considering this impact under three different scenarios:

- **Scenario 1: “Business as Usual”:** This assumes only a modest investment in coal based MEG in China that provides only a limited perturbation of global inter-regional trade flows.
- **Scenario 2: China Driven Case:** This assumes China will invest to make itself virtually self-sufficient in MEG by 2025. The next five years will see 1.8 million tons of new capacity, with a potential for circa 8.0 million tons per year by 2020.
- **Scenario 3: Global Technology Access:** This assumes that the conversion of syngas to MEG is widely available for integration with different syngas sources. This implies that countries with access to stranded gas could enter the market.

Nexant’s unique access to the wider value chain including developments in the coal industry, upstream oil & gas industry and downstream energy, chemicals and polymers markets is leveraged in this analysis. Combined with our extensive experience as advisors to leading MEG and derivative producers, this knowledge will allowed us to provide subscribers with in-depth, original insight at the impact of coal to MEG on the global MEG business at a strategic level.

Volume I - Market Dynamics

For **the three market scenarios** the study will deliver an analysis of the supply, demand and net trade outlook for MEG on a global basis covering historic and projected trends covering the period 2005 to 2025. A capacity listing of existing producers and firm projects has also been provided. The geographic coverage of the market analysis includes:

- North America
- South America
- Western Europe
- Asia Pacific, including individual profiles of key countries:
 - Japan
 - China
 - Korea
- Middle East
- Other regions in outline

As well as quantitative projections of capacity, consumption, operating rates and net trade volumes, in-depth analysis of the major factors influencing consumption and capacity growth has been included. An explanation of the expected developments in demand by end use sector is also presented.

Supply-side Segmentation by region/country covers, as required:

- NGL-integrated conventional MEG
- Naphtha-integrated conventional MEG
- Coal to MEG
- Natural gas to MEG
- Biomass to MEG.

Volume I - Industry Profitability and Pricing

For **the three market scenarios** the study considers the impact on pricing and profitability of the commercialisation of coal to MEG and future integration platforms for the period 2000 to 2025.

- By way of scene-setting the report covers historic profitability of archetypal producers in the traditional producing centres of the United States and Western Europe, as well as in the Middle East for the period 2000 to present.
- Profitability projections with estimates of margins for the United States, China, the Middle East and Western Europe.

Profitability is the key consideration for future project developers with new technology (the opportunity) and existing producers (the threat). The study provides:

- Historic and projected future prices for the period 2000 to 2025
- Prices for the three main reference regions of the U.S., Western Europe and Asia
- Nexant's Oil Scenarios to assess the impact on profitability for producers exploiting this new coal (or syngas) to MEG
- Commentary is provided on the key drivers and price setting mechanisms, and how these could be transformed by commercialising this new route to MEG.

Volume I - Delivered Cost Competitiveness

- The current delivered cost to market is assessed and competitiveness presented and compared to a future case in 2015 with coal based MEG and a syngas to MEG process back-integrated into stranded natural gas.
- In order to accurately evaluate the transportation costs associated with delivering MEG to the major markets, Nexant has developed shipping models that capture factors such as the cargo size and capital cost of typical MEG carriers, variable and fixed operating costs associated with shipping, terminalling fees, canal dues, etc.
- For each major market, the delivered cost for domestic MEG producers is compared to the delivered costs of major competing producers selling into that markets, as shown below:

Major Exporters	Target Markets
Canada	United States of America
Japan	China
South Korea	Latin America
Western Europe	Africa
Kuwait	
Saudi Arabia	
South-East Asia	

Volume II – Technology Evaluation

The exploitation of coal and synthesis gas forms the core of this study. Nexant provides:

- A review of the new coal to MEG process covering gasification, oxylation, reduction steps within a self-sufficient configuration.
 - Review of the coal gasification platform with integration into air separation, power generation and broader site infrastructure in an appropriate complex.
 - Clean-up of synthesis gas to manage syngas number, remove carbon dioxide, particulates and other impurities.
 - Conversion of synthesis gas into oxalic acid and subsequent conversion of oxalic acid into MEG.
 - Approaches to captive hydrogen production in the complex.
 - Environmental treatment and waste management considerations
- A review of integration options for syngas to MEG with natural gas reforming as well as biomass gasification
 - Review of appropriate reformer configurations to match optimised syngas number requirements
 - Review of biomass gasification options to produce “Green” MEG
- For each of the above Nexant provides:
 - A review of process chemistry,
 - Process flow diagrams,
 - Process mass balance
 - Capital cost estimate,
 - Operating cost estimate
 - Overall cost of production estimate
- Nexant compared production cost for new MEG technology platforms with traditional routes in appropriate commercial locations, namely:
 - Middle East (ethane-based ethylene)
 - Canada (ethane-based ethylene)
 - China (coal to MEG, coastal location and at the “mine mouth”)
 - South Korea (naphtha based ethylene)
 - Europe (naphtha based ethylene)
- The analysis is accompanied by a high level market review.
- Nexant provides various appendices with details of original MEG processes.

Appendix C shows the Table of Contents of both Volumes I and II.

SECTION 4.



Methodology

This Program is produced by a global organisation of Nexant researchers, analysts and recognised experts in the glycol industry. All our analysis is underpinned by Nexant's considerable experience of work in the methanol sector, as well as the unique ChemSystems Simulator.

Consulting Support

Nexant's consultants are available to subscribers to provide further discussion and clarification of any areas of the industry covered by the subscription. Any travel or out-of-pocket expenses associated with such consulting support is not covered by the subscription and will be invoiced separately, at cost.

Strategic Analysis

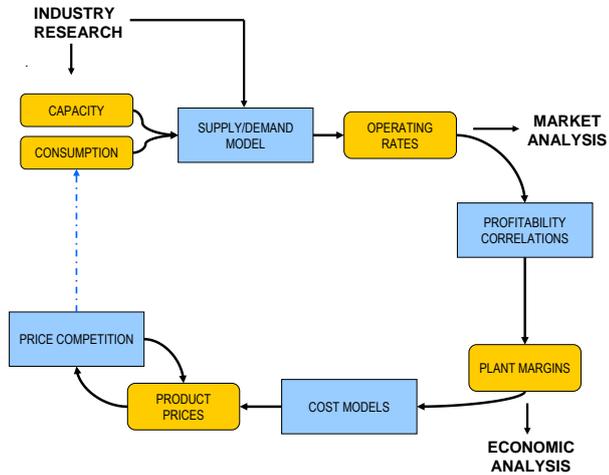
In addition to the technical and data-driven analysis that underlines the review of the business fundamentals, Nexant also brings the benefit of its extensive experience of single-client engagements to the Strategic Trends and Challenges discussion. We have acted in a wide variety of capacities spanning the areas of technical due diligence, feasibility analysis, market entry, competitiveness assessments and strategic planning for many prominent players in the glycol industry. Combined with our wealth of wider experience in the upstream gas and downstream MEG derivatives markets, we are able to deliver insights into emerging trends both within the methanol business and across the wider value chain. Selected engagements are presented in Appendix D.

ChemSystems Simulator

ChemSystems Simulator is the proprietary simulation model developed by Nexant and used to generate all the analysis and forecasts of the ChemSystems Online[®] and other offerings including the **ChemSystems PPE Programme**. The simulation model is an experience-based database running commodity petrochemical business logic algorithms to produce multi-scenario simulations of the global industry.

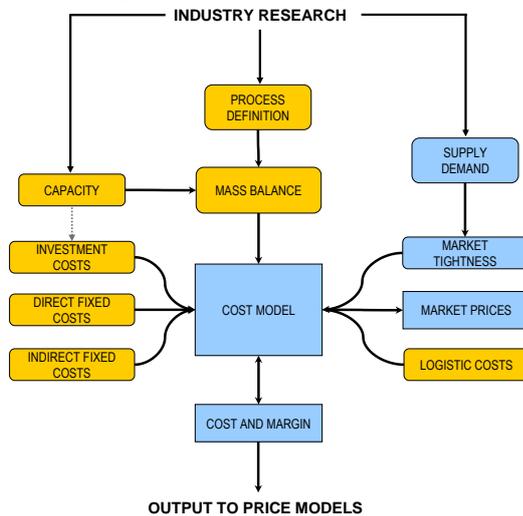
ChemSystems Simulator is available to subscribing companies, for an additional subscription fee, to develop private forecasts of market dynamics, industry profitability, etc. Clients are currently using the simulator for corporate and business unit planning, investment decision making and competitive analysis.

ChemSystems Simulator Simplified Logic Diagram



It is integrated from end-use markets back to petrochemical feedstocks. It considers inter-material competition, inter-regional price relationships, chain margins, product substitution, logistic costs and trade drivers. Costs and prices are integrated from crude oil, natural gas and petrochemical feedstocks through MEG to downstream products. One of the functional blocks depicted in the graphic above is expanded below to illustrate the interconnectivity of these drivers and the complex relationships that are built into Simulator algorithms.

ChemSystems Simulator Functional Blocks
(simplified cost model logic diagram)



ChemSystems Simulator delivers step change improvements in market forecasting and business/corporate planning, while reducing the resources and time required to evaluate multiple hypotheses and scenarios

SECTION 5.



Costs and Subscription

The subscription price for this study entitled **Coal to Ethylene Glycol – Changing the Rules of the Game** is as follows:

- **Volume 1:** Strategic Impact Analysis US\$16,000 (sixteen thousand U.S. dollars)
- **Volume 2:** Technology Evaluation US\$16,000 (sixteen thousand U.S. dollars)
- **Both Volumes:** US\$24,000 (twenty-four thousand U.S. dollars).

These fees are net of all local taxes.

The subscription includes:

- One hard copy of the full report (reports if both volumes 1 & 2 are purchased) and unlimited downloads of respective soft copies from the ChemSystems web site.
- Access to the data and analysis through the ChemSystems website at www.chemsystems.com and via electronic reports (Adobe .pdf file).
- Access to desk-based support from our consulting staff.

Additional hard copies will be available at US\$500 (five hundred U.S. dollars) per copy (covers both volume if subscribed to). Additional CD-ROM copies will be available for US\$200 (two hundred U.S. dollars) each.

Presentation Opportunity

Presentation of the key findings of the report at subscriber locations can also be arranged but will need to be quoted for separately to cover time and expenses incurred.

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Credentials

Nexant ChemSystems

Nexant

Nexant, a leading, global provider of consulting services to the energy industry, was established on 1 January 2000. As an independent company with a number of shareholders, Nexant provides impartial advice to clients in the energy and chemicals sector.

Nexant's global headquarters are in San Francisco. The company provides a range of services to the energy industries, as detailed in our literature and on the website at www.nexant.com.

Nexant Oil & Gas and Chemicals Practices

The foundations of Nexant's Oil & Gas Practice are based on more than 25 years of experience in the oil and gas industries as part of Bechtel's consulting business and 40 years of experience of the downstream oil practice originating from Nexant's acquisition of Chem Systems in 2001. Our consolidated expertise and experience is unrivalled by any other specialist consulting firm in the industry.

Our Oil & Gas and Chemicals Practices serve the entire industry value chain, from oil and gas production through the downstream sub-sector to chemicals, including speciality chemicals. These services complement Nexant's other divisions, which provide a comprehensive range of consulting services and software to the electric power and advanced energy sectors.

Nexant's Chemicals Practice offers its clients ***Insight and Understanding*** – Our sharp focus on the petroleum and chemical industry gives us an unrivalled ***insight*** into the current issues and opportunities; the shifting landscape and changing fortunes that affect the sector. We ***understand*** our clients' businesses - the challenges they face and the competitive pressures which shape their thinking.

This can only be achieved through an unrivalled combination of:

- **Industry knowledge** - we consult on the petroleum and chemical industry; our consultants are all experts in the industry, who work fulltime on the challenges facing the industry.
- **In-house data** - we have an unrivalled database on the industry and its markets, and employ teams of researchers to continually update this resource. Our ChemSystems Online[®] product, which can be accessed by subscribers, contains the core of this knowledge base covering the commodity chemicals and polymers.
- **Proven and tested methodologies** - we have developed a range of methodologies to cover different types of assignments, such as feasibility studies, project finance support, privatisations, due diligence studies for acquisitions and financings, market and technology review, and selection studies. All of these have been tailored and continuously improved to suit the needs of the industry.

- **Technical competence** - we constantly track the technical improvements in the industry and frequently review new process improvements for clients. Our ChemSystems Process Evaluation/Research Planning (PERP) Program encapsulates some of this work.
- **Global** - our permanent offices in London, New York (White Plains), Houston, Tokyo, and Bangkok provide comprehensive coverage. In addition, we have long-term relationships with representatives or registered branch offices in most major locations, including Beijing, Singapore, Seoul, Moscow, Abu Dhabi, Amman, Cairo, Abuja, Rio de Janeiro, Caracas, and Paris. Nexant professionals have extensive experience in emerging markets such as the former Soviet Union and China, and our team of industry experts can work fluently in over ten languages.
- **Strategic consulting** - we have been on the leading edge of many of the strategic initiatives in the industry, including consolidations, restructuring, and privatisations. We pride ourselves on our thought leadership in strategy consulting in the sector.
- **Breadth** across all relevant sectors. Our team can provide clients with a complete and holistic view of the sector and its place in the overall economy covering the entire value chain.

Nexant has unrivalled experience:

- Each year Nexant advises on tens of billions of dollars of petroleum and chemicals projects, in most of the major global supply and demand centres, covering the full hydrocarbon production, processing and transportation supply chain.
- Our team routinely works for almost every major multinational corporation in the petroleum and chemical business and for many national companies, governments, and international organisations. Nexant's view is often quoted by major corporations as an authoritative view on the industry.

We are recognised for our quality and industry thought leadership:

- Nexant is often quoted in the petroleum and chemical press on its views on markets and developments.
- Our team members are called on to give expert papers at major conferences.
- Our experienced Vice Presidents are responsible for the quality of our work in their individual areas of expertise. They are expected to provide inputs to and supervise every assignment we undertake.

We have extensive resources to fulfil any assignment in the industry:

- Nexant Oil & Gas and Chemicals Practices employ over one hundred staff, making us the largest specialist consultant in the sector. We are the only industry specialist consultant to offer a fully comprehensive in-house service from well-to-wire and to downstream chemical.
- All staff are experienced in the industry and have typically worked previously for a multi-national industry company or a major contractor/technology company. More than half of our staff have worked for Nexant and the predecessor organisations for more than ten years.
- Staff qualifications include chemists and engineers as well as economists and legal specialists. A very high proportion of staff has advanced degrees - PhD or MBA.
- We can staff projects anywhere in the world from our global network of offices.
- Our data resources are the best in the industry and are continually updated.

ChemSystems Online

ChemSystems Online® is an internet-based planning and forecasting tool. It heralds a new generation of consulting and planning solutions to give a competitive edge to your investment decisions and business strategies. ChemSystems Online® provides online access to the database behind the reports of the ChemSystems PPE program.

It provides online access to the most comprehensive database of current data, analysis and forecasts of the global petrochemical industry, including:

- Techno-Economics:
 - Techno-Economic cost of production, raw material consumption, yield
- Industry Profitability & Prices:
 - Analysis and forecasts of costs, prices, margins and profitability
- Market Dynamics:
 - Location, process and technology, ownership, scale, expansions, market capacity shares
 - Consumption and consumption drivers, production and supply, trade, global supply and demand projections up to 2025

Selected MEG Single-Client and Multi-Client Experience

The “Coal to Chemicals” and MEG industries are sectors of particular interest to Nexant, having performed well over a hundred engagements for most of the significant global and regional players and numerous new or would-be new operators, as well as financial or governmental organisations. The following notes describe a few major projects undertaken in recent years. Details of the many other engagements are available on request. In many cases, the nature of Nexant work is confidential, and we are not free to identify the client with the project. For this reason, some of the typical projects listed below do not identify the client.

Strategic Study for New Producer

A marketing strategy for a major North African petrochemicals producer in MEG and gas based chemicals

Global MEG Trade Analysis

For a market leader in petrochemical storage and logistics and global review of the Meg industry focused on terminalling opportunities and new storage needs for traded MEG.

Global MEG Competitive Intelligence

For a major petrochemicals producer located in Latin America, a detailed analysis of its competitive position versus its major rivals in MEG production.

Global MEG Competitive Intelligence

For a major petrochemicals producer located in Latin America, a detailed analysis of its competitive position versus its major rivals in MEG production.

Polygeneration from Coal: Integrated Power and Chemicals

This study analyzes the economics of an integrated coal-based gasification complex producing electric power via IGCC technology and chemical derivatives.

Polygeneration from Coal: Integrated Power and Fuels

This study analyzes the economics of an integrated coal-based gasification complex producing electric power via IGCC technology and liquid fuels.

Olefin Derivatives Study in Saudi Arabia

For an investor in the Private Sector, as review of the opportunities for new investment in Saudi Arabia in commodity petrochemicals including MEG.

Relocation of a Major MEG Exporter

For an existing major Asian producer and exporter of MEG, a review of the opportunities for new investment in Saudi Arabia in commodity petrochemicals including MEG.

Coal to Olefins

The technology for converting coal all the way through to ethylene and propylene is developing rapidly and commercialization plans are developing rapidly as well, especially in China. This new report demonstrates the favourable economics of coal to olefins (CTO) using both UOP and Chinese-based technology.

CHEMSYSTEMS

ChemSystems Programs

ChemSystems Online

Providing online databases and tools for analysis and forecasts of the markets and economics of the petroleum and petrochemical industry.

Petroleum & Petrochemical Economics (PPE)

Providing regular analysis and forecast reports on the profitability, competitive position, and supply/demand trends of the global industry.

ChemSystems Simulator

Providing a state-of-the-art simulation model for the entire global petroleum and petrochemical market – including technology, costs, supply/demand, and profitability.

Process Evaluation/ Research Planning (PERP)

Providing analysis and economic models of the existing and developing process technology used by the industry.

ChemSystems Training

Providing in-house and public training courses on the industry, its chemistry and on the planning and analysis methodologies.

PolyOlefins Planning Service (POPS)

Providing detailed market and technology evaluation of the global polyolefin industry.

Special Reports

Providing reports on topical issues and aspects of the industry.

Strategic Business Analysis (SBA)

Providing regular reports on the strategic trends that will shape the industry, including reviews of markets, pricing, technology and delivered cost competitiveness

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