

## Petrochemicals: An In-Depth Introduction

23 – 26 February 2021	Start time: 1PM GMT (EMEA/Americas)
20 – 23 April	Start time: 7AM GMT (Asia/Middle East)
24 – 27 August	Start time: 5.30AM GMT (Asia/Middle East)
2 – 5 November	Start time: 2PM GMT (EMEA/Americas)

**MODULE #1** (day one): Understanding petrochemicals: Feedstock dynamics and industry fundamentals.

<b>1 hour</b>	<p><b>Understanding petrochemicals: industry development, basic production processes and building blocks</b></p> <ul style="list-style-type: none"> <li>• How the industry has developed over the years</li> <li>• Overview of the petrochemicals value chain: terminology explained</li> <li>• Paraffins (alkanes), olefins (alkenes) and aromatics introduced</li> <li>• Steam cracking to make the building blocks</li> <li>• The impact of coronavirus: How it could reshape the industry</li> <li>• Recycling: Introducing basic concepts and terminology</li> </ul>
<b>45 minutes</b>	<p><b>Examining oil and its relationship with petrochemicals</b></p> <ul style="list-style-type: none"> <li>• Overview of the oil refining industry</li> <li>• Crude oil quality measurements</li> <li>• Crude distillation, FCC and catalytic reforming processes</li> <li>• Where petrochemicals are produced in refineries</li> <li>• Crude oil pricing, and its influence on petrochemicals</li> <li>• Coronavirus: Short -and long-term scenarios for oil markets</li> </ul>
<b>15 minutes</b>	<b>Break</b>
<b>50 minutes</b>	<p><b>An introduction to natural gas, methanol and ammonia</b></p> <ul style="list-style-type: none"> <li>• Types of natural gas: NGLs, LPGs and condensates</li> <li>• Natural gas distribution and LNG</li> <li>• Growth of shale gas and the fracking process</li> <li>• Ethane cost advantage</li> <li>• The impact of shale gas on US competitiveness</li> <li>• Emerging trade in ethane</li> <li>• Production, consumption and reserves</li> <li>• Methanol and ammonia from natural gas</li> <li>• Olefins and growing fuel uses from methanol</li> </ul>
<b>10 minutes</b>	<b>Summary and conclusion</b>

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### **MODULE #2** (day two): Petrochemical building blocks and their major applications

<b>1 hour</b>	<b>Olefins: Ethylene, propylene and butadiene</b> <ul style="list-style-type: none"> <li>Ethylene and derivatives: major sources, value chains and end-uses</li> <li>The three polyethylenes, ethylene oxide/glycol and the vinyls chain</li> <li>Propylene – the versatile polypropylene and other derivatives</li> <li>Sources of propylene and on-purpose processes</li> <li>Butadiene: synthetic rubbers and other C4 derivatives</li> <li>Market dynamics: Demand and supply in the Coronavirus New Normal</li> </ul>
<b>20 minutes</b>	<b>Value chain exercise: Olefins</b>
<b>10 minutes</b>	<b>Break</b>
<b>1 hour</b>	<b>Aromatics: Benzene, toluene and xylenes</b> <ul style="list-style-type: none"> <li>Primary and secondary sources of aromatics</li> <li>Benzene and derivatives: value chains and end-uses</li> <li>Polymers made from styrene</li> <li>Tensions in the phenol-acetone chains</li> <li>Paraxylene to polyester</li> <li>Phthalates from orthoxylene</li> <li>Market dynamics: Demand and supply in the Coronavirus New Normal</li> </ul>
<b>20 minutes</b>	<b>Value chain exercise: Aromatics</b>
<b>10 minutes</b>	<b>Summary and conclusion</b>

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**MODULE #3** (day three): Petrochemical market trends and understanding cost drivers

<b>1 hour 20 minutes</b>	<b>Petrochemicals – a changed world</b> <ul style="list-style-type: none"> <li>• Petrochemicals are a global business: who are the leaders; what are their roles?</li> <li>• Key business drivers: Coronavirus, feedstock, markets, logistics and more</li> <li>• Global and regional chemicals output; domination of China</li> <li>• The key industries for petrochemicals</li> <li>• Strategic moves and creating winning partnerships</li> <li>• Trade flows and shifting regional influences</li> <li>• Industry challenges and opportunities: social pressure and tightening controls, key trends and growth prospects</li> </ul>
<b>10 minutes</b>	<b>Break</b>
<b>30 minutes</b>	<b>Understanding petrochemicals pricing and cost drivers</b> <ul style="list-style-type: none"> <li>• How markets function and prices are set</li> <li>• Types of prices: Spot and contract pricing</li> <li>• Pricing jargon clarified</li> <li>• Main price drivers – cost, supply, demand and sentiment</li> <li>• ICIS price assessment explained</li> <li>• Price reporting challenges; manipulation and illiquid markets</li> </ul>
<b>30 minutes</b>	<b>Application: Knowledge survey &amp; interactive discussion</b>
<b>15 minutes</b>	<b>Summary and conclusion</b>

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**MODULE #4** (day four): Future trends: Looking into factors that are shaping the future of the petrochemicals industry

<b>1 hour 15 minutes</b>	<b>COVID-19 in focus: Implications on petrochemical markets</b> <ul style="list-style-type: none"><li>• The global market condition: Where it stands today</li><li>• A bipolar world: How the US and China split could be accelerated post-virus, leading to two economic and geopolitical trading zones and it would mean for petrochemicals trade flows and investments</li></ul>
<b>15 minutes</b>	<b>Break</b>
<b>45 minutes</b>	<b>The rise of sustainability commitments and how it could change the future direction of petrochemicals</b>
<b>15 minutes</b>	<b>Summary and conclusion</b>