Pandemic accelerates supply chain shift

Supply chains were already becoming more regional, and the coronavirus is now quickening the pace of change. Nationalism and ESG are adding to the push

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The coronavirus pandemic brought significant changes to every aspect of life, including major alterations to the way business is done. One such key effect has been an accelerated shift from global to local supply chains of many goods, including chemicals.

While geopolitical and trade tensions were already paving the way for deglobalisation of supply hubs, the border shutdowns and restrictions that came with the coronavirus crisis made the transition towards regional supply chains more urgent.

A number of factors contributed to the emerging trend, including doubts around the reliability of global chains, shifts in demand and the rise of nationalism in many countries.

Catalyst of the shift

The coronavirus crisis, while not a sole contributor to the regionalisation of supply chains, has been accelerating the process.

At the beginning of the outbreak, supply chains from Hubei and then the rest of China were the first to be disrupted. Shortly after, the chemical industry experienced a huge supply and demand shock as lockdowns spread across Asia, Europe and the US.

Ships waited for weeks at ports in Asia for enough containers to load and sail for Europe. Then further delays piled on as ships' crews were forced to quarantine on arrival at destination ports. As a result, many buyers had to look for material closer to home to ensure production continued.

Supply chain disruptions were severe in March to June 2020 when many production sites had to close, depending on their application segment and economic importance.

"Many borders, even within Europe, had been closed without a lot of lead time to properly prepare. The air cargo market collapsed and there were shortages of trucks, truck drivers and partially also packaging material," said the director general of the European Distributors' Association (FECC), Dorothee Arns.

Rhian O'Connor
Lead analyst, ICIS

"China and India have been building plants, the US has been building a big export market. Europe is looking to rely less on importers"

And while markets are now recovering from the initial shock and adapting to the "new normal", the shift from global to more local supply chains is set to continue.

"We see the pandemic as essentially being the catalyst for two separate but related paradigm shifts in this area, rather than their cause," said International eChem chairman Paul Hodges.

The first contributor to the emerging trend, according to Hodges, is the low reliability of global supply chains, which the pandemic has revealed. For example, auto components had to be flown at the beginning of the crisis to allow for production to continue - a temporary solution as manufacturers later had to close assembly plants due to lack of available parts.

The pharma industry also faced critical shortages of generic drugs, such as paracetamol, where the active pharmaceutical ingredients (APIs) are made in China and then manufactured in India.

Another key factor supporting the continuation of such a shift is changing demand due to the ageing population in the West.

"Population growth in the West is being led by the Perennials, those aged 55+, and they already own most of what they need, so they no longer need more of the types of stuff that the supply chains were set up to provide," Hodges added.

Political factors

A rising nationalism mood in many countries is further exacerbating a move away from global trade flows.

The continuing uncertainty around trading conditions that will come with UK's Brexit, as well as the increasing tension between the US and China are both expected to result in shifts in global trade and supply chains.

The likely changes in the production and trading processes in China, the largest single market in the chemical industry, could become a key challenge to global companies. There are already examples of companies looking at "ringfencing" Chinese operations and rebasing US and European supply chains closer to their core markets, according to a July 2020 KPMG report.

This would influence not only global supply chains of certain chemical products, but also downstream industries that are also likely to seek alternative manufacturing locations, the report added.

Dorothee Arns
Director general, Fecc

"Chemical supply chains are so interwoven and globally optimised that... new patterns emerge for specific markets rather than as a one-size-fits-all solution"

"With added geopolitical issues around the US-China trading relationship and continued uncertainty around Brexit, there are significant headwinds against the continued existence of the current globally integrated supply base of the industry," said Paul Harnick, KPMG's global head of chemicals.

This will, in turn, accelerate the process of companies seeking lower cost manufacturing locations other than China, which has been taking place for some time.

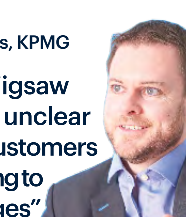
Vietnam is one player that looks set to take some manufacturing share away from China. The country managed to keep exports up during the first months of the coronavirus crisis.

"Initially, markets were stunned by the situation as supply chains have been relying heavily on China. Vietnam managed to benefit from that as it has the infrastructure and skilled workers to an extent unlike other countries in the region," said Rhian O'Connor, lead analyst at ICIS.

She added that the chemical industry had been already moving towards a more regional focus with each region already in the process of becoming more self-sufficient.

"China and India have been building plants, the US has been building a big export market. Europe is looking to rely less on importers," said O'Connor, adding that regulations set by EU's REACH and storage restrictions are the main hurdles for EU importers.

Paul Harnick
Global head of chemicals, KPMG



"The piece of the jigsaw which is currently unclear is to what extent customers are going to be willing to pay for such changes"

Arns echoed the opinion that the petrochemicals world has started to go more localised in the past decade with Asia and the US both undergoing huge capacity increases to meet their regional demand.

"The shale gas revolution in the US was another game changer for petrochemicals in the recent past as is the European Green Deal and the circular economy vision of the EU for the European producers in the future," she added.

Sustainability

The growing focus on environmental, sustainability and corporate governance (ESG) is a key driver for a change towards localising supply chains.

Hodges expects to see the gradual phasing out of world-scale crackers in favour of local-scale production.

"Why spend large amounts of money to drill for oil and gas, and then for processing it and transporting it, when local waste sites probably contain all the hydrocarbons you will ever need to set up a city-wide recycling business," he asks.

Paul Hodges
Chairman, International eChem

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Arns agreed that sustainability initiatives will play a vital role in the remodeling of the petrochemical industry in the future, particularly the European Green Deal which aims to make Europe climate neutral by 2050.

"Most likely sustainability and circular economy solutions, as well as upcoming technological innovations will remodel supply chains much more than the pandemic," she said.

A report by US-headquartered legal group Baker McKenzie, published in August, also stresses the importance of sustainability in the future of supply chains with companies likely to move away from low-cost labour countries if certain ESG standards are not met.

"As demands by national or supra-national regulation, public opinion, customers, and in particular investors, on compliance with ESG demands and standards and the challenges of climate change increase over time, manufacturing will move away from locations where the implementation of higher standards is delayed," the report said.

Expectations for the future

As much as experts expect to see the move towards more local chains continue in the years to come, the chemical industry has evolved to be global by nature and is not likely to get fragmented overnight.

"Chemicals will undoubtedly remain a global industry, but we see the extent of that globalisation coming under threat over the next few years," said KPMG's Harnick.

He added that large chemical firms are already being asked to provide plans for re-basing supply chains closer to core markets to ensure continuity of supply in case of recurring global health or logistics issues.

"The piece of the jigsaw which is currently unclear is to what extent customers are going to be willing to pay for such changes – let's not forget supply chains as they stand today have been optimised for efficiency," noted Harnick.

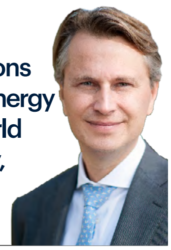
Eelco Hoekstra, Chairman & CEO at Vopak, believes a major shift to local supply chains will not be sustainable in the future for larger chemical volumes.

"We have a lot of solutions on a global level in the energy and petrochemical world related to sustainability, quality of products and technical challenges. You can't solve those issues on a national level," he said in an interview with ICIS.

The unprecedented business complications that rose from the numerous lockdowns and shortages of some critical products, could instead help reinforce the importance of chemicals, according to Hoekstra.

"The pandemic is a good opportunity for the petrochemical industry to demonstrate how important it is for vital products," he said.

Eelco Hoekstra
Chairman and CEO, Vopak



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Petrochemicals going into medical masks, gloves and robes, as well as into soaps and detergents, have seen particularly high demand.

It is also important to note that each petrochemical market has its own supply and demand dynamics, size and transportation requirements. This makes it harder to come up with all-wide industry solutions when moving from global to local supply chains.

"Chemical supply chains are so interwoven and globally optimised that I would see potential new patterns emerging for certain specific application segments and markets rather than as a one-size-fits-all solution for all downstream segments across-the-board," said Arns.

In any case, many questions around the specifics of how regional supply chains would work in practice are pending with answers likely to emerge in the process of changes taking place.

"We are at the stage of developing pilot projects at the moment, so it's a very exciting time. Nobody quite knows how it will all work out, so it's critical to 'learn by doing', and accept that mistakes will be made," Hodges concluded. ■

Yana Palagacheva London

Coronavirus impact on markets vary

The coronavirus pandemic effect on different petrochemicals has varied significantly depending on the end products they are used for.

There has been a notable difference between demand for durable goods, used in the automotive, construction, furniture and textile end markets, and the non-durable ones, particularly chemicals going into packaging, pharma products, soaps and detergents and protective equipment.

"The first group saw a drop in demand in all geographies, while demand for the second went up, which was a fairly logical development as a result of the virus pandemic," said Eelco Hoekstra, Chairman & CEO at Vopak, speaking to ICIS.

He added that despite the logistical challenges, the industry responded well and there were no significant disruptions in deliveries within the Vopak network, especially in the essential non-durable markets.

Hoekstra also stressed the importance of the people aspect while working in a challenging environment. Working with reliable partners and exchanging up-to-date accurate information on availability of products and realistic delivery dates has helped business continue running as smoothly as possible, he added.

Disappearing US arbitrage

Another considerable impact has been the significant drop in crude oil prices, which subsequently resulted in a disappearing cost advantage for US ethane crackers relative to naphtha crackers.

US petrochemical producers largely rely on ethane cracking, which has historically been cheaper than naphtha. This, in turn, results in US sellers exporting petrochemical products to Europe and other markets globally.

But a crashing oil price resulted in much cheaper naphtha for European producers, giving them the ability to compete with US sellers on a global level.

"The competing landscape of petrochemicals changed [as a result of the oil price crash] and this impacted trade flows," said Hoekstra. ■