

Chemicals face a 'Ring of Fire'

War, energy disruption and protectionism are creating multiple crises, forcing chemical companies to rethink supply chains while opening opportunities in local production and European defence



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Ninety percent of all earthquakes take place within the tectonic belt known as the 'Ring of Fire' in the Pacific Ocean. The multiple crises currently facing the chemical industry form a similar 'Ring of Fire', as the chart shows for the global economy. And just as earthquakes can easily generate further damage when they create a tsunami, the impact of each crisis can easily be multiplied if it combines with other risks.

Today's ongoing wars in the Ukraine and Arabian Gulf illustrate this potential impact. Both wars are now creating a global energy crisis. This is particularly critical for oil products, such as diesel. Russian and Gulf refineries are being attacked on an increasing scale, and the world's diesel supplies are being sharply reduced. Diesel fuel is 30 per cent of oil demand, and it goes into a wide variety of critical applications in addition to transport.

In turn, we now risk a 3rd order impact, with

President Trump considering a ban on US diesel exports. This would open the door to retaliation and further increase the risk from today's trade wars and protectionism. It would also quickly reduce US gasoline supplies, as refiners would be forced to reduce operating rates once domestic diesel storage was full. It would therefore add to inflation risks and lead to further interest rate rises around the world.

COST OF LIVING

A further concern is that people only have so much money to spend. So today's rises in oil product prices and interest rates will force many to cut back on the more discretionary items that drive chemical industry growth. This will also risk a rise in unemployment. In other words, the Ring of Fire has the potential to become a vicious circle, where a negative impact in one area cascades into another, related, area.

It is hard to see any positives from these developments, particularly in the short-term. In-

stead, they create a clear imperative to develop new strategies that will reposition chemical businesses to survive and prosper in today's new normal world. This will not be easy. But the alternative is to hope that today's vicious circle will somehow evolve into a virtuous circle, and return us to a more comfortable and predictable world. This seems an unrealistic option today, and highly risky as a strategy.

Change is never comfortable, but it seems inevitable today. And it is possible to see major benefits developing for European companies as a result of these changes. We are already seeing one upside in terms of the crises' impact on global supply chains. These have been under pressure since the Covid pandemic. Today, they have become even more unreliable. This is causing a major paradigm shift in terms of purchasing philosophy, with companies now starting to focus on local suppliers. The reason is that the world is rapidly moving towards a 'just in case' mentality. Companies need to build inventory on a precautionary

basis, rather than continuing to operate on a 'just in time' basis. This also reflects a major shift in the macro environment, where companies start to refocus on effectiveness rather than efficiency and lowest possible cost.

LOCAL-FOR-LOCAL SUPPLY CHAINS

One example is the growing number of companies who are returning to a more 'local-for-local' operating model. The aim is to reduce the risk of supply-chain outages by buying and making locally wherever possible. This model makes good sense in today's more uncertain world. One never knows what new developments might suddenly occur overnight to jeopardise critical operations.

This new model is part and parcel of a new approach to doing business. It involves developing new business models that will be more robust in response to the crises highlighted in the 'Ring of Fire'. And it is worth taking a moment to understand the root cause of today's transition. As discussed here before, the simple answer is that today's ageing populations make it impossible to return to the growth levels seen when the vast BabyBoomer generation was moving to the Wealth Creator 25-54 age group.

The Boomers ushered in a unique economic SuperCycle which greatly reduced global tensions. Everyone was seeing growth and so the need to fight for a greater share of global resources was much reduced. But today, we are back to a low-growth world, and tensions are continuing to escalate. Europe has clearly begun to recognise this new reality:

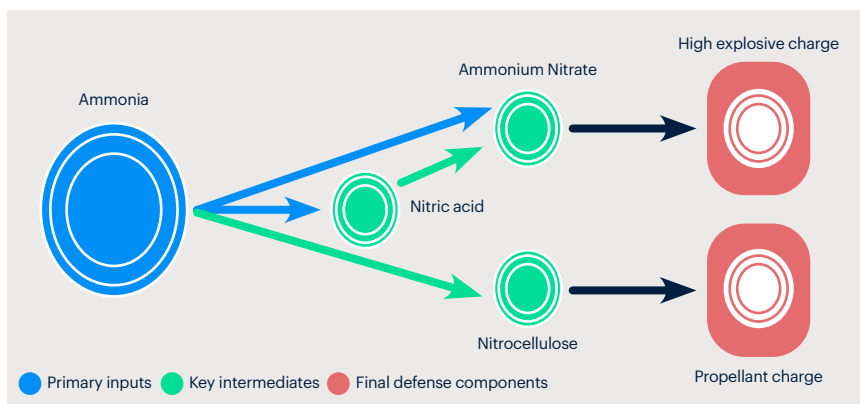
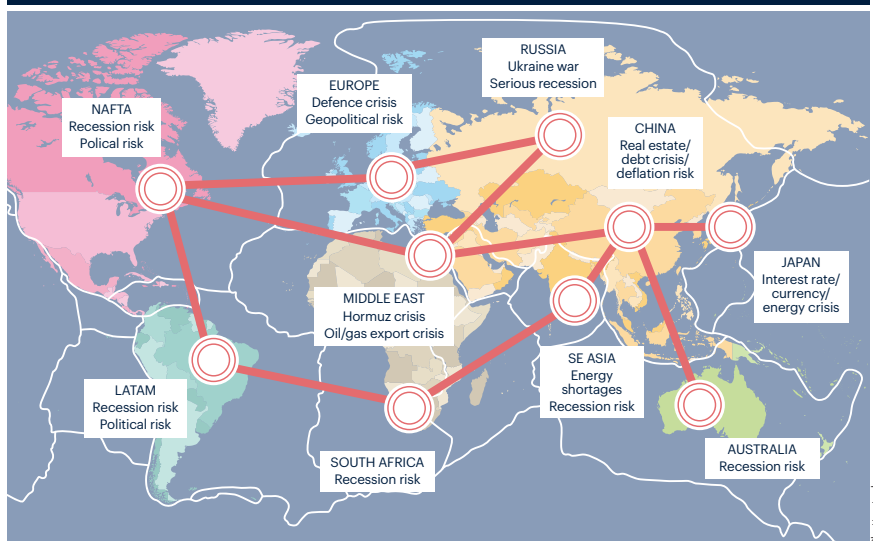
- It is no longer simply accepting China's desire to build European market share at the expense of domestic production
- It is also starting to recreate the important role of national and regional champions, as we can see with BASF's bid for Evonik
- Importantly, it is also highlighting the need to develop sovereign supply chains in the defence sector for critical areas such as energetics
- This creates a major new opportunity for Europe's industry in terms of re-establishing the necessary critical value chains

European governments and chemical companies have largely ignored the defence market since the fall of the Berlin Wall in 1989. This led defence spend to fall dramatically from 8% of GDP to 2%, while health and other social spend accelerated to replace it. But today, this "guns or butter" debate is no longer relevant. Europe's enemies are more focused on pillaging its resources than boosting its living standards. And so the chemical industry needs to step up, quickly, to fill the gap that has developed over the past 40 years.

DEFENCE OPPORTUNITIES

Energetics, the raw materials for ammunition, are a super-critical area as the Ukraine war has confirmed. Russia is currently firing 10,000

The tectonic plates of the global economy have become a "Ring of Fire"



155mm shells every day, and NATO members are struggling to keep up. Former UK Security Minister, Tom Tugendhat, warned earlier this year that UK inventory would only last 8 days in a similar high-intensity war. Clearly, this is an extremely dangerous situation. Many NATO countries, including the UK, no longer even manufacture the key building blocks required to run the necessary sovereign supply chains.

The chart highlights a simplified version of one of these key supply chains. Ammonia is the primary input for Nitric Acid, which in turn is critical for the production of Ammonium Nitrate, used for high explosive charges. Nitric Acid is also critical for the production of Nitrocellulose, used for propellant charges. There are other, equally critical, supply chains for the major energetics involving ethylene, propylene, benzene, toluene and methanol.

The first priority is obviously to rebuild these supply chains as fast as possible. But the opportunity is much broader than this. Current technologies – largely developed before 1989 – need updating and replacing for the modern

era. Drones have already shown what can be done in terms of reinvention. Flow chemistry can similarly reinvent today's legacy batch processes for ammunition. These are slow and expensive, when the market need is for fast and affordable production. Similarly, major new R&D effort needs to be greenlighted as very little has been invested in the area over the past 40 years. The returns are likely to be very good, considering the ground that has to be made up. And the investment will also help to ensure European security at a time when global tensions are multiplying.

There is no doubt that we are living in difficult times. And in such times, clinging to the status quo is the riskiest possible strategy. We may not know how things may play out, but we can be reasonably certain that there will be no return to the old normal in which we all grew up. ■



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