

# Chemical Business and the COVID-19 : Seeking New Paths for the Next Decade

Dr. R. Rajagopal

## Abstract

This COVID pandemic has devastated virtually all businesses and industries. The chemical industry is adversely impacted. As a key supplier to other industries, the recovery in chemical industry will come from the recovery of its core customers such as the automotives, building and construction, and consumer goods sectors. As new normals are evolving in every sector as a consequence of the effects of COVID and governments are committing stimulus packages to prime up the economies, the chemical sector is expected to play a key role in propping up other industries, thus boosting the impact of stimulus packages.

This article analyses the impact of COVID on the chemical industry, the newer pattern of demand & consumer behaviour favouring sustainable products and options the chemical industry should consider to face the challenges that this pandemic has thrown up.

The pandemic crisis has exposed fundamental shortcomings in pandemic preparedness, socio-economic systems and global leadership. Governments and businesses have struggled to address compounding repercussions in the form of workforce challenges, disruptions in essential supplies and social instability. They have had to balance health security imperatives against the economic fallout and rising societal anxieties, while relying on digital infrastructure in unprecedented ways.

The COVID-19 global crisis continues to disrupt manufacturing and global supply chains with severe consequences for the global economy. Since the start of the outbreak, the global production system has been challenged by factory shutdowns, demand surges for essential goods, stockpiling and panic-buying, as well as shifting consumer preferences (e.g. online over physical).



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This has raised new and unprecedented questions on the level of resilience of global value chains and the overall approach to business of chemicals manufacturing.

## Role of Chemical Sector to Prop Up Economies

The chemical sector can play a significant part in maximising the impact of COVID-19 stimulus packages around the world. Aside from being the worst health and humanitarian crisis for decades, COVID-19 has caused a drop of almost \$7 trillion in global GDP this year.

In response, governments around the world have committed more than \$15 trillion in COVID-19 stimulus packages. Is there a role to be played by the chemicals and materials industry in maximizing the positive impact of these interventions?

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Through collaboration with policy-makers and other stakeholders, this sector's leaders can not only offer solutions that meet new consumer demand for sustainable products, but which can also play a proactive role in bringing innovation into value chains to 'build back better' – and help the sector move towards a more renewable, circular and resilient future.

As global value chains have traditionally been optimized for cost-competitiveness reasons, the COVID-19 pandemic proved that companies need to adopt radically new approaches to businesses which have risk potential. They will have to seek collaboration with governments to be able to adapt and respond to future shocks.

Technology has been central to the way people, companies and governments have managed the COVID-19 crisis and the contact-free economy may also create new employment opportunities in the post-pandemic world according to WEF sources.

The rapid roll-out of new technology solutions has exacerbated other risks, such as digital fragmentation, privacy violations and inequality. Thus, COVID-19 is likely to challenge the relationship between technology and governance, while mistrust or misuse of technology could have long-lasting effects on society.

The World Economic Forum's Chemical and Advanced Materials Industry Action Group (IAG), supported by the Forum in collaboration with Accenture, has identified opportunities to increase sectorial and societal resilience through collaborative action. As part of this work, we're keen to highlight the role of the sector in boosting the impact of economic stimulus packages.

The chemical industry converts raw materials into products that have a broad range of uses in the food, healthcare, building and construction, consumer goods, agriculture and transportation industries. Since 2018, chemical output growth has slowed or contracted in key

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manufacturing countries. Both Europe and North America have reported reduced chemical activity for 2019, mainly as a result of the global economic slowdown and trade tensions.

### Time Frame for Recovery

Now COVID-19 has forced its customers' industries to shut down entire plants – which is expected to reduce global chemical GDP by around 11% in 2020.

The chemical sector already beset with a host of complex dilemmas is expected to bear a heavy impact of the present pandemic through 2021-22. It will have to consider options to reduce or defer less-essential expenses (including reduction of stocks, deferment of investments, etc.), to secure income (including outstanding dues from buyers, particularly government and public sector undertakings), to access additional working capital (through low-interest loans and/or from retained earnings) and/or to appeal for government fiscal and/or financial support.

The future new normal will be different from what it used to be in the past. The time required to achieve some normalcy is expected to be significant, with minimum estimates varying between an year to two. This will depend heavily on how the COVID-19 pandemic unfolds globally in the coming weeks, as well as on policy responses and stimulus packages.

Where will the recovery come from? Recovery for the chemicals and materials industry hinges on the recovery of its core customers – such as the automotive, building and construction, and consumer goods sectors – but their path to recovery is uncertain, and is likely to remain so for the next two or three years through 2023.

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### Changes in Demand Pattern

In 2020 demand patterns turned more dynamic as some of the COVID-19-induced consumer behaviours became the new reality post-crisis. The pandemic has triggered a change in how people live, buy and think. For example, demand for sustainable products had already been growing for a while, but new research shows that after the pandemic 79% of consumers said they will seek out products that are healthier and better for the environment, and that they are willing to pay a premium for them. This perhaps is an indirect spinoff of the crisis and will contribute a lot to climate change mitigation efforts.

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A sharp change in the way goods are bought and sold was driven by health concerns and desire for convenience and comfort as the rise in online trade went up in a wide range of segments. It is likely that suppliers of personal care, packaging, wellness, lubricants or nutrition products will focus on stepping up their plans.

### Stimulus Packages

Governments are taking drastic measures to close the GDP gap with stimulus packages worth up to \$15 trillion – and making them the key consumption engines in their economies. As the chemical industry lies at the heart of several value chains and acts as a solution provider to other sectors of the economy, it plays a pivotal role in leading a sustainable recovery. Today, chemical innovations already contribute to several sustainable development challenges such as energy and climate, transport, health and food, among others.




The chemicals sector can leverage both direct and indirect stimulus programmes, and can strengthen their broader impact to provide shared value across business and society. This can be done in diverse ways: setting up agile value chains; need to incentivise innovations to enhance resilience; offer stimulus packages.

The most immediate concerns are cash flow and working capital. Most are concerned that survival is only possible with a substantive financial and/or fiscal support package from the governments.

Some of the direct stimulus packages were increasing higher export subsidies for petrochemical products by China; EU, US and Japan incentivising local pharmaceutical clusters. Indirect packages include Germany's green hydrogen strategy that includes a \$10 billion budget; EU's e-mobility subsidies, with a plan worth \$91 billion/

To move towards a sustainable industry in the next few years it is key to have stimulus measures that work on how

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### Build infrastructure to support more resilient and sustainable systems

For example, the transition to a circular economy requires investment to encourage greater transparency in waste streams (circular track and trace), establish end-of-life collection systems for further material classes, develop chemical recycling processes, and build the necessary physical assets. This can only be achieved by collaborating in regional clusters, which represent ideal opportunities for stimulus support.

### Leverage stimulus packages to support broader sustainability goals

As an example, industry innovators may further support the transition to cleaner mobility. The future of mobility, with fleets of autonomous and/or electric vehicles, may require a new spectrum of materials and chemicals to make everything from batteries to simplified powertrains and

customizable interiors. The contribution of the sector to the development of advanced biofuels, green hydrogen, sustainable battery materials or recycling technologies will be crucial to enable this transition.

### Stimulate a new wave of innovation through a collaborative ecosystem

For example, in the recycling space alone, there are hundreds of relevant start-ups across the world that are working with new technologies – but these cannot scale up without additional funding. The time is ripe for a new wave of corporate and public venturing to accelerate the process of bringing these technologies to the market.

By capitalizing on cross-sector innovation and collaboration, the chemical industry can not only build back better, but also secure its role in the post-COVID era with its improved products, services and technologies.

### New thinking needed for 2021

With supply chains in disarray, the industry is facing a serious challenge to optimise their value chains. Given that the pandemic is here to stay, industry needs to realise that it is not going to be business as usual. The key priority before the industry is not only to look at maintenance of business continuity but also to develop new functional constructs for a new normal in their businesses. There are no industry wide acceptable path. Each company will have to develop their own responses to ever changing scenario.

It will have to evolve new approaches to absorb financial impact through 2021. It will not be possible without risky and innovative ways. Capturing value in a disrupted value chain will pose new complexities in manufacturing, customer management, and more importantly a leadership crisis in managing workforce motivation and commitment where the industry is not yet geared.

Efficient liquidity management, proactive cost optimisation, and keeping credit lines in order is imperative for the industry where medium scale industry accounts for a major share of output.

Many companies across agrochemicals, pharmaceuticals, personal care etc., are engaged in revamping portfolios, rationalise staff functions and marketing infrastructure. In the speciality space, suppliers will be forced to develop framework for customer and application integration. One of the most challenging tasks before the chemical companies is to balance supply

chain disruptions.

### Options for the Chemical Industry

Through 2021 the industry will have to look at options at various levels and in newer ways.

- Adopting the overall supply chain set-up by carefully managing interdependent levers such as dual sourcing, complexity reduction and localizing
- Doubling down on investments in advanced manufacturing technologies that were attributed an essential role
- Adjusting the operating model to allow for a more flexible and decentralized manufacturing organization with a consistent risk management system in place
- Redefining external relationships and capturing new opportunities from crossindustry collaboration models
- Reviewing the product portfolio to reduce complexity and refocus on key strategic directions

The chemical sector's supply chain has historically been strongly dependent on China, which has been heavily impacted by the COVID-19 pandemic and instituted wide-ranging countermeasures as a result. In addition to creating potential challenges in obtaining necessary raw materials, the disruption of global supply chains will hamper chemicals producers' ability to deliver finished products to customers. As with previous downturns, the industry may likely move quickly to cut discretionary and capital spending to support operations.

The long-ranging impact of the COVID-19 pandemic is yet to be understood. A number of industry sectors have been severely impacted and there are changes to daily life, accelerated by the pandemic and supported by technology and innovation, which companies will need to adapt to.

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