



Pandemic pushes transformation

Coronavirus has accelerated paradigm shifts, with second half of the year likely to see more disruption, which should drive chemical CEOs to plan for radical strategic shifts

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‘Business as usual’ seems a most unlikely outcome as we look forward over the next 6 months. The pandemic may well bring further trials for us to endure. We also have to set budgets for the next few years, and so we will need new strategies and business models to respond to the Net Zero challenge.

The past six months have been challenging enough, as markets have been upended by supply chain chaos. The cost of shipping containers increased more than four-fold on

major routes such as China-USA due to the urgency of moving PPE equipment around the world. In addition, there were port lockdowns and quarantine-related delays for sailors trapped on board ships. Collectively, these problems meant that less than 40% of container ships arrived on schedule in Q1.

These shortages led to understandable panic in purchasing departments, which rushed to place multiple orders in the hope that one, at least, might get delivered. And the problems were magnified by hedge fund speculators, who pushed oil prices up by 50%

between January-June. As always, this led buyers to bring forward orders in anticipation of higher product prices.

Unfortunately, financial markets took these shortages at face value and decided that demand was suddenly seeing a major recovery. So we then saw a ‘reflation trade’ trade begin, with interest rates rallying and dire predictions of a return to 1970s-style inflation rates. Even the housing market was temporarily caught up in the frenzy, with US lumber prices more than doubling from \$700 to \$1670 in May before reality set in and they collapsed back to \$600.

The second half of the year (H2) is likely to see many more examples like this. The problem is simply that markets tend to prefer a simple story, even if this means confusing “apparent demand” with real demand. We see this phenomenon all the time when oil prices rise. Purchasing managers rush to build stock in advance of product price rises – and commentators assure us that end-user demand is also rising. But, just as night follows day, buyers soon destock again once prices plateau and the bubble bursts.

Demand forecasts for H2 therefore need to come with a ‘health warning’, particularly as the pandemic is creating additional complications in terms of vaccine take-up. Europe, the USA/Canada and China have given around one job per resident, and are on track to fully vaccinate their populations by the autumn. But anti-vaxxers could easily disrupt this progress in some countries. And other members of the G20 group of major economies are well behind. Japan is at 0.8 jobs per resident, Australia at 0.5, India at 0.35 and Indonesia at just 0.25.

Effectively, therefore, we are looking at best at a twin-track global economy, even assuming that a new variant of the virus doesn’t disrupt everything again. The fully vaccinated economies are already reopening, but life is unlikely to go back to pre-COVID-19 days as travel will remain very disrupted. And, of course, consumer spending will be hit as taxes start to rise to pay off the vast debts built up during the pandemic. Meanwhile, life in partially-vaccinated economies will continue to be disrupted by lockdowns and border closures – creating further supply chain disruption.

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And if this uncertainty was not enough, the COP26 climate change conference in November means we also have to focus on the likely impact of Net Zero policies. The oil industry is set for a major paradigm shift, with the International Energy Agency arguing that no further investments in fossil fuels are needed beyond the end of this year, given the urgent need to decarbonise transport fuels.

Transport accounts for two-thirds of oil demand in the USA. And globally, it accounts for 25% of total energy demand. Major international oil companies are already announcing plans to refocus their business away from transport fuels such as gasoline and diesel, and to close refineries. In turn, this means the chemical industry needs to plan for a poten-

Chemical industry boards need to adopt a five-point plan to meet the Net Zero challenge

- The first step is to set a date by when the company will stop using or selling products based on fossil fuels and move to recycled/CO2/ bio-based feedstocks
- The next step is to confirm the details of the transformed business model and the detailed timetable for its implementation
- Thirdly, there is a need to finalise and implement the new strategy, using today’s profits to finance the resource needs
- Then the board needs to agree target dates for the transformation with regulators and major customers
- Finally, it needs to build alignment to the transformation Action Plan with all the key stakeholders

tially major decline in feedstock availability – naphtha, ethane and others – over the next few years.

Automotive leads transformation

Luckily, we are not the only major industry being impacted by these developments. The auto industry is our largest customer, with each new US auto containing around \$3,250 of chemicals, plastics and fabrics. And it provides a real-life case study in how businesses are being transformed by the need to meet the Net Zero agenda. Importantly, this is a genuine transformation, just as a caterpillar transforms via the chrysalis stage into a butterfly.

■ **The chrysalis stage.** This is the transition to electric vehicles (EVs), which will reduce the supplier base by around 30% according to the US suppliers association. EVs only have around 20 moving parts, compared to the more than 2000 in gasoline/diesel vehicles. So most of the chemical products currently used to keep the engine moving, and reduce its noise, will disappear

■ **The butterfly emerges.** This is the transformation stage, as the industry moves to autonomous vehicles (AVs). It is now well underway, with many companies already able to offer Level-2 AVs where a driver is still needed. By 2025, most majors will be offering Level-4 capability, where the car will be able to drive itself.

This two-stage transformation is already starting to have a major impact on consumers. Most people’s next car will likely be an EV, as these will soon be cost advantaged versus gasoline/diesel. The arrival of Level-4 AVs will then mean that many people won’t

ever want to buy another car. Cars are the most expensive purchase after houses for most of us. And yet the average car is only driven for an hour per day. The car market is therefore set to transform to the smartphone model, with consumers instead buying a bundle of services on a monthly basis depending on their needs.

As a result, leading automakers such as VW are now accelerating their own transformation to become software-based suppliers of mobility solutions. As VW has noted:

“Anyone who believes that the e-car alone will take us into the future is mistaken. The real gamechanger is digitalisation. Electrification, software-defined products, new business models and autonomous driving – these four major forces are driving future development.”

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The combination of the pandemic and the Net Zero agenda is therefore now accelerating the distinction between winners and losers, as discussed here in January (ICB 8-14 January). The European Commission’s roadmap for decarbonising the auto market highlights the issue. Each of these issues would require major adaptation in its own right, together they require a rapid and complete transformation of business models to reach the 2040 goals:

- Transport will be co-modal, with many local services reachable within a short walk or cycle ride, in line with the 15-minute city concept
- AVs can be smaller/lighter as they will be much safer, and will need far fewer parts
- Their electric motors won’t need oil, and today’s 2000+ moving parts drop to just 20
- Total auto sales fall at least 50%, as only enthusiasts will still want to own one
- Governments will need to introduce taxes on use, to compensate for lost fuel duties
- Jobs related to driving - taxis, lorries, public transport etc - will disappear

These paradigm shifts are potentially very good news for future revenue and profit growth. As the CEO of Stellantis, the world’s fourth largest auto company has noted, the “transformation period is a wonderful opportunity to reset the clock and start a new race”. With 2030 deadlines looming for the end of new gasoline/diesel auto sales in many major countries, potential chemical company Winners need to be taking their place on the starting line by the end of this year. ■



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