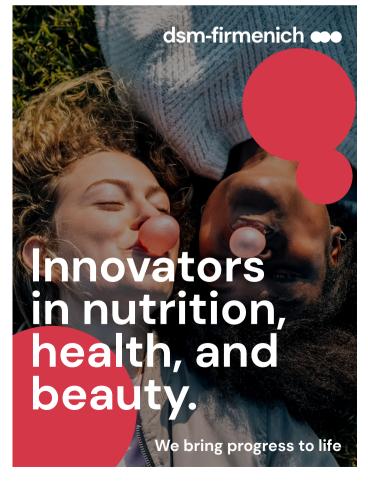


# INTRODUCTION

#### GDP Lopsided to the East

GDP growth is a modern fixation, introduced at the end of the Second World War (WW2). Ancient dynasties, kingdoms, empires and the first republics all sought to accumulate territory and wealth, but countries today frame their central policies for above x % annual growth and large GDPs in PPP (purchasing power parity) terms, which are believed to be the recipe for development and prosperity. But in the "tepid twenties," to use the words of IMF head Kristalina Georgieva describing the current decade, global growth is laggard, expected to stay quite flat at 2.8% to 2030. This historically weak figure mixes bleaker prospects in the Western hemisphere with rampant growth in the East: China is to be steady at 3.5%, ASEAN to continue its run of near-constant growth above 5% over past 20 years, and India, leapfrogging both, has a turbocharged growth at 7.5%.

After a miserable 2023 and no clear recovery in sight, the short-term scenario for the chemical industry is weighed down by wars, a thickening so-called "economic iron curtain" between the US and China, and persistent inflation. The chemical industry must look further into the future for growth projections and follow these carefully. ASEAN, the political and economic union that comprises 10 of the 11 nations located in Southeast Asia, scored a couple of wins on the investment front recently: In 2022, foreign direct investment (FDI) in ASEAN reached an all-time high at US\$224 billion. ASEAN has also beaten China as the number one destination for manufacturing investment coming from OECD countries, according to fDI Markets, as investors use the region as a hedge to the tit-for-tat tariff measures imposed between China and the US. According to BCG, ASEAN could reap up to US\$600 billion a year in additional manufacturing output.





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Predictably, the chemical sector has also shifted to Asia, with net outflows normally directed to Western Europe going to Asia Pacific in the past three years. The Southeast Asian chemical industry is forecasted to grow from US\$239 billion in 2022 to US\$448 billion by 2030, noted the Minister of Investment, Trade and Industry of Malaysia.

ASEAN is emerging as a prominent FDI destination both because it is in the middle of APAC, indirectly benefiting from that rising Asian-centric consumer and manufacturing hub, and for its own merits as a rising growth engine: As a bloc, ASEAN is expected to rise from fifth to the fourth largest economy in the world by 2030. Singapore, one of the Four Asian tigers (alongside Hong Kong, South Korea, and Taiwan) is a magnet for FDI investment, especially in high-tech and R&D-heavy sectors. Meanwhile, the so-called "tiger cubs," the developing economies of Indonesia, Malaysia, the Philippines, Thailand, and Vietnam (known also as the Emerging 5), have the strongest growth outlook to 2030 among major regional groupings. The Philippines and Vietnam will be making the biggest jumps, predicted to become the 19th and 20th largest economies globally by 2050.

Behind these performances sits something as fundamental as it gets: demographics. At the most basic level, ASEAN represents 8.4% of the world's population. Its 671.7 million people make it the third-most populous region and, by default, a key market for the chemical industry. But there is more to it. French philosopher Auguste Comte put it beautifully, if a bit vaguely: "Population is destiny." Demographic economists have a crueler way of looking at the same idea, seeing the people inhabiting a country in productivity-versus-liability metrics. ASEAN countries are to yield a demographic "dividend" for the next two to three decades, which accounts to a big extent for its projected economic boom over that same period. While many of the developed economies in Europe, Japan, and soon China are facing an aging demographic, and the global South, primarily Africa, has explosive fertility rates and rapidly growing populations, ASEAN is in a (temporary) sweet-spot, with a high and growing working-age human capital and low numbers of dependables, or people of non-working age, namely children and the elderly.

However, the relationship between demographics and growth is not a directly causal one. Nor are the mathematics of GDP a reflection of a country's real prosperity. Growth is often unequally distributed, more so for such a diverse region as Southeast Asia. The richest 1% in both Indonesia and Thailand control over half of the countries' wealth, noted Business Sweden. Inequality is widening in the region, and the urban-rural divide is starker.

If there is anything that can learned from China's draconian one-child policy, it is that demographics are not controllable: the Chinese experiment came biting back, resulting in a shrinking workforce.



Josephine Moh, Vice President, Energy and Renewables, Chemicals and Materials, Singapore Economic Development Board (EDB)

# **SINGAPORE**

### Change is on the horizon in the lion city

Ever since Shell announced a "strategic review" of its Singaporean assets last year, many questions were laid open over what may happen to the Pulau Bukom refinery and 1.1 million tons ethylene cracker that supplies ethylene oxide, ethoxylates, styrene monomers, and propylene oxide to chemical companies on Jurong Island. The review concluded with the announcement this year that Shell will be selling the complex to CAPGC, a JV between Indonesian leader Chandra Asri, as a majority owner, and giant Swiss trader Glencore. Shell's departure created an opportunity for two new entrees - with Chandra Asri gaining a foothold in the region's largest oil refining and trading centers, as well as access to naphtha feedstock for its Indonesian cracker, while Glencore makes Singapore, already one of its main marketing hubs, the only country where it has physical refinery assets, besides South Africa.

Companies on Jurong Island that depend on Shell's feedstock supply can rest assured for now, but the clarifications over the sale did not stifle bigger, more existential questions around the meaning of Singapore's losing one of its largest and first investors, even as it gains two other large players to the island. Is Singapore still attractive as an investment destination, especially for refining and petrochemicals? In fact, there is controversy around these questions. Of course it does. Probably more so today than ever before, because it is evolving into an increasingly more sophisticated hub and pushing innovation boundaries. But one must understand why the mooted review created so much anxiety.

First, the final decision was prefaced by a long period of uncertainty, which began back in 2020 when Shell decided to halve refining capacity at Bukom to 237,000 barrels per day (bpd), and three years later it proceeded to cancel two planned projects for biofuel and base oil produc-



Andreas Kappler, Head - Vertical Management Chemical & Pharma, ASEAN, Siemens



Vinod Agnihotri, Managing Director, ASEAN & Vice President and Head of MPP APAC, LANXESS

Singapore. "In the totality of things, time, such as the efficiency of customs clearance, is also a cost," said Andreas Kappler, head of chemical & pharma for Siemens ASEAN.

With its notorious sticks and carrots ap-

With its notorious sticks-and-carrots approach, Singapore gives large emitters no option but to seek to decarbonize or pay for the GHG they let out, channeling the proceeds from the carbon tax to fund decarbonization projects, but it also offers them the tools to run expensive decarbonization projects. "We are sensitive to the fact we are an export-oriented country. For that reason, we introduced a carbon tax transition framework to help large emitters and export-oriented emitters adapt to the changes. We also have a scheme called Resource Efficiency Grant for Emissions available for industrial facilities undertaking projects that will reduce their emissions," said Josephine Moh, VP & head, Chemi-

cals & Materials, at the Singapore Economic Development Board (EDB).

So far, the Energy Efficiency Grant (EEG) introduced in 2022 has been used by 2,000 companies, and the budget was ramped up this year.

Large companies with facilities in the country are in alignment with the government's vision. LANXESS, which retains a production site for its Material Protection Products business unit in Singapore, recently updated its decarbonisation goals - if in 2019 the company was pledging carbon neutrality for Scope 1 & 2 emissions by 2040, it has now extended that ambition to include Scope 3 emissions by 2050. "This entails a full, cradle-to-gate approach," commented Vinod Agnihotri, managing director for LANXESS ASEAN & VP and Head of MPP for LANXESS APAC.

tion in Singapore. These actions sent the message that Singapore is not only less competitive in the refining business, but it does not fit the bill either for Shell's lower-carbon businesses. Besides the three to four years of extended uncertainty, which typically makes investors nervous and invites speculation, the other reason why Singapore is taking Shell's divestment to heart is the symbolic role this plays, for the Bukom refinery is the country's oldest of its three (together with ExxonMobil and Singapore Refining Company), inaugurated back in 1961; it represented the first vote of confidence to establish the Singaporean oil refining and petrochemical sector, now among the largest in the world. For that, a transaction reported in the range of S\$1.3 billion is more than a change of ownership between leading players; it cuts deep into Singapore's own standing as an energy hub.

Exacerbating concerns over Singapore's competitiveness are two main policy changes, one outside of Singapore's control and the other driven from within. The first is the Global Minimum Tax (GMT) of 15% minimum rate applied to all multinationals, to which 140 countries agreed to. Singapore, whose attractive fiscal incentives have been at the core of attracting MNCs to its shores, will have less room to play on tax advantages beginning next year when the rule becomes effective; however, Singapore has already prepared a new program, called Refundable Investment Credit (RIC) in Budget 2024, offering up to 50% support on each qualifying expenditure category (including R&D, new production facilities, decarbonization projects, and other) for up to 10 years.

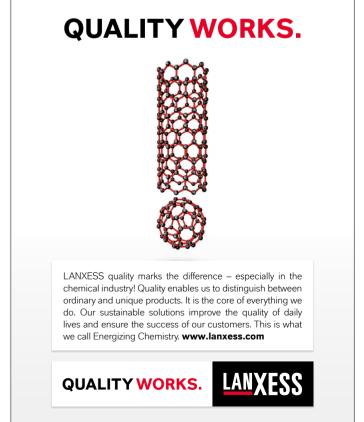
The second taxation that is feared might dent Singapore's attractiveness is the carbon tax applied to all facilities emitting more than 25,000 tons of GHG/year, which has grown from \$\$5/ton in 2023 to \$\$25/ton this year, and is planned to gradually expand to up to \$\$80/ton by 2030. According to an article by Channel News Asia, a refinery complex of the profile of Shell's would mean a carbon tax impact of up to \$\$2 per barrel. Singapore is the first country in Asia to implement a carbon tax, putting itself at a cost disadvantage compared to its peers.

Fortunately, Singapore does not want to play in a price game that it cannot win. "Historically, Singapore positioned itself as the refining hub for Asia, but a lot has changed since," commented John Hong, APAC sales director and Singapore country head at Infineum, a lubricant additives producer in Singapore.

Hong explained that China's heavy investments in both large-scale and "teapot" refineries with capacities in the 300,000-400,000 bpd range, pushed everyone to invest in integrated complexes, leaving Singapore without sufficient export outlets. But, as Hong was quick to add: "Singapore has formidable skills in R&D and business-friendly policies, and excels in the development of smaller-volume, higher-value products further up the value chain."

These qualities are what investors in Singapore are paying for. Recently, Siemens announced the construction of a high-tech factory in Singapore, which will create approximately 400 new jobs. When looking for the right location for the investment, Siemens considered multiple options but chose

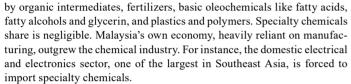
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## MALAYSIA

#### Levelling up

Malaysia is the classic reference to the Southeast Asian petrochemical industry, where the discovery of oil and gas resources triggered the development of downstream petrochemical and LNG businesses, led by a national-owned company, in this case Petronas. But sometime over the last few decades, Malaysia's chemical sector stagnated. In volume terms, the production index flatlined, according to Statista, even though output has modestly increased by about 4.5% per year, according to official sources. In terms of its products basket, base chemicals such as methanol, ethylene, propylene and butadiene make for the largest value contributors, followed



"Oil and gas will eventually deplete and strength in feedstock availability and competitiveness is no longer as it was. The industry needs to add knowledge-based value," commented Dato' Muhtar Hashim, executive director at the Chemical Industries Council of Malaysia (CICM), echoing an industrywide sentiment.



Website: www.methanolmsa.com



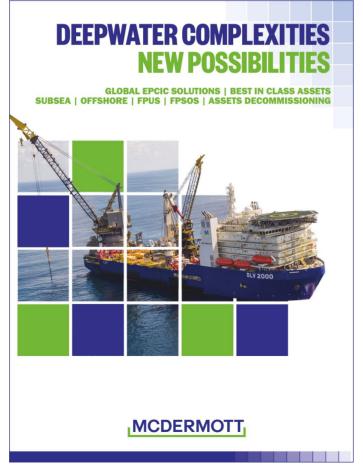
Tengku Zafrul Tengku Abdul Aziz, Malaysia Minister of Investment, Trade and Industry (MITI)

CICM was part of the long-anticipated Chemical Industry Roadmap (CIR), launched last year. The CIR provides a much-needed topdown directive. Its aspirations are interrelated along the theme of spearheading the specialty sector: increasing the value add of the industry through diversification into specialty chemicals: enhancing industry integration between upstream and downstream; boosting competitiveness in export markets; improving the industry's sustainability; and introducing new technology.

In raw numbers, Malaysia would like to increase the industry's gross value add to GDP to 4.5%, up from the current 3.4%, by the turn of the decade. That is the equivalent of adding RM40 billion in incremental value. Another key goal is to become the first destination for FDI in ASEAN for specialty chemicals investment, as

well as becoming a top two exporter in the region.

Malaysia's goal to become the first choice for FDI in specialty chemicals in the region is a direct challenge to Singapore, currently occupying the first position. However, the two neighbors can both generate more investment by collaborating. Malaysia and Singapore are working on a Johor-Singapore Special Economic Zone (JS-SEZ), better integrating the Southern state of Malaysia with its neighbor across the bridge. "The JS-SEZ is expected to ride on the strong growth of Johor and significant investments in the region by Singapore. Singapore was Johor's second-largest foreign investor from January to June 2022," said Tengku Zafrul Tengku Abdul Aziz, Minister of Investment, Trade and Industry (MITI).



## INDONESIA

#### The chemical industry in a post-Jokowi era

The people of the former Dutch colony mesh together across 1,300 ethnic groups, 700 languages, in 7,000 of the 13,000 islands inhibited between the Indian and Pacific Oceans. This wildly diverse population found a common denominator in candidate Prabowo Subianto, who won decisively with 58% of the vote in the first round. The new president will take office in October, closing the end of a decade under Joko Widodo, known as "Jokowi," the outgoing president. "Jokowinomics," the highly popular infrastructure-led economic development model, a signature of Jokowi, is hoped to stay, together with the nationalistic policies starting to contour more of Indonesia's chemical industry.



Aromatics

The strategic importance of chemicals for the country's downstream manufacturing sectors, as well as the hefty bill Indonesia pays on chemical imports every year, were reasons enough for President Jokowi to declare ambitious goals: He wants Indonesia to become the largest petrochemical base in Southeast Asia, to the extent that it can stop imports altogether by 2027. To get there, the administration must work on two ends: One is to build industrial capacity; and the other, more unorthodox measure, to put barriers on imports. The two are closely linked. Indonesia does not have the opportunity to invest in capacity if it is flooded with competitive stock from abroad. Nor can it cut imports without risking the flight of investors in local production. Meddling with free-market principles is tricky. Not doing it, can also be tricky for the country's dying local industries, not to mention the political risks.

As part of the plan to make Indonesia a leading petrochemical hub, the government started to implement import quotas on key chemical classes, forcing resin importers and converters to absorb the local products before the imported ones. It began with PP block copolymers, but since March this year, the quotas have extended to polyethylene (PE) and polypropylene (PP) grades. Low-density polyethylene (LDPE) and PE with HS code 390140 are currently exempted because these are not domestically available.

Indonesia relies on imports of many commodity chemicals, including olefins (33%) and polyolefins (42% for PE and 57% of PP), according to Argus Media, but even in commodities where the local supply can meet demand, the market is overrun by importers. "The irony is that, while local capacity is sufficient to cover domestic demand for PET, we cannot avoid seeing imported products competing with local producers," said Fahrurrozi Zaini, president director of PT Ineos Aromatics, operating the half-a-million-tons PTA plant in Merak, Indonesia, acquired recently from BP. With a new president in waiting, investors and the industry may be wondering what will come next for Indonesia. Those who voted for Subianto certainly hope he will carry on Jokowi's legacy - after all, Jokowi's endorsement of Subianto is why many voted for the contestant in the first place. Jokowi is so wellregarded in Indonesia that some even hoped he might fiddle with the constitution to stay in place beyond his two current mandates. Instead, he

weighed in his support to Subianto, a former opponent in the two presidential races in 2014 and 2019. After losing behind Jokowi in 2019, Subianto claimed the elections were stolen, sparking protests that led to the death of eight people. Nevertheless, Jokowi, in a keep-your-enemies-evencloser move, made Subianto his defense minister. In a gesture of undeniable support. Subjanto's running mate is no other than Jokowi's eldest son. Subinato used the Jokowi brand to success, but the two men are very different. While Jokowi was more of an everyman figure, as a former furniture salesman, Subianto is an immensely rich former general. He married the daughter of Indonesia's late dictator, Suharto, who ruled the country for 32 years until 1998. Jokowi practiced prudent economic management, transforming Indonesia from one of the "fragile five" emerging economies into one of the world's best-performing economies in recent years, at above 5% growth. By contrast, Subianto makes lavish promises of tearaway growth in the double-digit range. More concerning is Subianto's dark past, as a former special-forces commander associated with war crimes in East Timor (now Timor Leste), when this was invaded by Indonesia in 1975. He was found guilty of the kidnappings of democracy activists, discharged from his post, and even barred from the US, until former president Trump lifted the ban in 2020. However, with that past long behind him, the 72-year-old incoming president presents himself to Indonesian young voters on Tiktok as a "grandpa" figure who loves his cat, Bobby. Despite the makeover, analysts remain nervous about his authoritarian instincts.



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# **PETROCHEMICALS**

#### The elusive "quarter away"

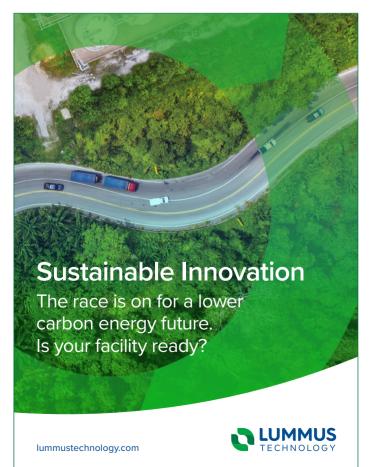
"In the first quarter of 2023, we were watching the beginning of a slowdown in raw material prices. This trend has carried on through the year, recovery seemingly 'one quarter away' until that quarter passed," said Aaron Montgomery, president and CEO of Ouray, an emergency response service company for chemical manufacturers and chemical tankers.

Montgomery describes the unfulfilled hope that the commodity chemical markets have held on to ever since demand started to weaken towards the end of 2022, leaving the industry submerged in oversupply. As much as we would like

to report the later quarters of this year will bring the relief the industry so desperately needs, we are about to relate why this is unlikely to be the case.

The Southeast Asian chemical industry is to see ferociously more competition, both at home and in its primary export market, China, as demand remains languid and supply is strong, particularly from the Middle East. Southeast Asia is not only a feedstock net importer but also export-focused, a dangerous combination of dependencies that weakens its grip on the market. To make matters worse, most of the local crackers are naphtha-based, subjecting the industry to oil price volatility.

"Elevated oil prices have meant very narrow conversions for the players in SEA. Last year some of our customers turned off their plants, and some even preferred to sell the naphtha feedstock in the spot markets rather than





Eugene Ng, General Manager for Sales & Marketing, Asia Pacific Region, Chevron Oronite

converting it to olefins," explained Ubolrat Wiwattanakul, vice president for Southeast Asia at Lummus Technology, a technology licensor.

Global operating rates for both ethylene and propylene, the two main building blocks for petrochemical products, are expected to decline to 80% and 71% between 2022-2030, down 8% and 9% from the 2000-2001 period, according to ICIS. Loss-making petrochemical companies have pushed through with hopes of a flare-up in prices, but this prospect does not look likely due to slow demand. China has been the engine of growth for petrochemical demand, delivering demand growth for chemicals at 6-8% per year; however, future projections are much more subdued, forecasted at 1-3% by ICIS. This is causing a "demand recession," as described by Swiss-based consultancy New Normal.

10 years ago, China announced its self-sufficiency goals in the petrochemical sector and it has rigurously followed them through. In the olefin market, the International Energy Agency estimates that China makes up for over half of all new olefin capacity between 2022 and 2028. With the world's hottest petrochemical market no longer needing imports, Southeast Asia is not only left without a principal export outlet, but it also becomes an attractive import target. In the highly oversupplied high-density polyethylene (HDPE) market, where capacity is exceeding demand by around 12 million tpa at operating rates of 79% between 2020-2030, Southeast Asia is projected to represent the second-biggest "prize," after China itself, which will still account for 37% of the world's HDPE imports. Southeast Asia will be behind at 24%. That could change should China accelerate its domestic capacity in this segment too.

Besides China, Southeast Asian players are also squeezed by Middle Eastern producers venturing further into the deep-sea APAC markets. Petrochemical investments by Middle Eastern players, whether at home or in other markets, are closely watched because the region is expected to divert its abundant oil into petrochemical products, as demand for fuels will eventually decline due to the electrification and decarbonization of the transport sector. In a press release, Aramco said the company could convert up to 4 million bbl/day of liquids into chemicals by 2030.

Southeast Asian petrochemical companies could also turn to more crude-to-chemicals in theory, but it will be hard to compete with the large scale of the new plants built in China and the Middle East. Also, with gasoline prices in a much better shape compared to olefin prices, Southeast Asian refiners have little incentive to invest in conversions. For now, the industry is focused on survival, making "tweaks" to current plants to mitigate negative margins in saturated products. Cost-optimization and efficiency programs are also high on the agenda of petrochemical players in the region. At the high end of this, successful value enhancement programs have led to huge savings. On the M&A front, transactions that match feedstock with the market, potentially from the Middle East into Asia, are likely.

One thing that Southeast Asian countries could learn from China is investing beyond quarterly performance. China has invested during "sickness and health," driven not solely by profits, but by the longer-term prospects of job creation, stability, and advancing market positions when others were preoccupied with overheads or paused to mend the wounds of past and present challenges.

"A key factor driving an upward trend in APAC could be the Chinese government's proactive fiscal adjustments and liquidity injections, which I believe are strategic moves aimed at stabilizing the economy and restoring market confidence," Eugene Ng, general manager for Sales & Marketing APAC for Chevron Oronite told GBR.

Of course, few have the luxury of subsidies, scale, and integration with a humongous manufacturing sector that China grants, but there are still many spots to fill in specialty chemicals before China catches up to those too.

# SPECIALTY CHEMICALS

### The end of the destocking cycle

Unprecedented events led to an unprecedented destocking cycle that particularly impacted the specialty chemicals sector, a sector typically more involved in the production of durable goods as opposed to plastics or other chemicals used on an everyday basis (like packaging) and therefore absorbed more rapidly. Miscalculations were unavoidable. From Covid-era supply disruptions and stock-outs in 2020-2021, the industry slipped quickly into a period of overstimulated, fast demand, and record profits, warranting over-confident buying and over-stocking in 2022.

Since then, one of the longest destocking exercises in the sector's history began. After hitting rock bottom, most of the stock has been now digested in the markets, not without leaving the industry scarred. Raj Kaushik, director for Japanese specialty composites supplier, FRP Services, told GBR that end-customers are now holding less stock than they used to, buying patterns shifting from a quarterly basis to more frequent, local purchases as a result of uncertainty and currency fluctuations.

The market size for the global specialty industry is expected to rise to \$914.4 billion in 2030, up from \$616.2 billion in 2022, according to S&P figures. The chemical industry will always be there, so demand is typically seen in a broader sense of long-term projections. Smart and timely positioning with current trends is also key for quicker gains. According to a BCG report looking at total shareholder returns (TSR) for the period 2018-2022, the capital markets have generally punished multispecialty businesses (chemical conglomerates with multiple unrelated businesses), favoring instead leaders in focused, high-growth segments, especially in

life sciences, high-performance materials and chemicals related to green energy and the environment.

Recent M&A activity certainly reflects these trends with segment consolidation emerging as the main motivator for mergers and acquisitions, according to BCG. In the past few years, there have been multiple large-scale spin-offs and "split-ups" of large conglomerates along the broad distinction of specialties and commodities. There is a need in the market for the higher-margin, lower-volume businesses to be treated separately and independently from the volume-driven commodities. The most recent such split was completed at Solvay, with the original brand-name retaining the 40% essentials business, and the remaining 60% of revenue of the business was spun off as an independent public company, Syensqo. Similar historic splits include the DuPont and Dow US\$150 billion megamerger in 2015, only to be later split into three more focused companies (Dow, DuPont, and Corteva).

Besides these broad reshuffles, we also see a trend to narrow in on specific growth areas through both strategic asset acquisitions and mergers of entire companies. The specialty chemicals industry is becoming more specialized, with mergers giving way to absolute leaders in their fields. The DSM and Firmenich \$20.7 billion merger resulted in dsm-firmenich, a "category of one" company in the nutrition, health, and beauty ingredients space.

Destocking pressures had decelerated M&A activity, not just because of less available cash, but also because it was difficult for buyers to know what they were buying – the cash flows and EBITDA performances of potential targets had been distorted by inventory imbalances and low sales. As these pressures ease and companies fall back into balanced inventory-sales ratios, it is possible to see more carve-outs, acquisitions, and mergers, driven by the need to build sharper yet more consolidated portfolios in high-growth segments and territories.

