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LATIN AMERICAN RESILIENCE

Can the region leverage its advantages to weather economic turmoil?

In 2021, pent up demand fueled by government stimulus packages triggered a remarkable rebound in the chemical and petrochemical industries, as companies bounced back from the lockdown shock of 2020 to post record profits. However, whether such growth was sustainable in the context of a myriad of macro challenges was questionable. The Russian invasion of Ukraine in February 2022 upset an already fragile global supply chain, and as inflation began to ramp up, the backdrop was set for a looming recession which could lead to political and social turmoil.

The old Brazilian saying, 'a calm sea never made a good sailor,' seems apt in times like these. Many Latin American nations are used to volatility, and as such are better prepared to deal with dynamic change. Furthermore, two of the predominant themes to gain traction in the last two years – the re-regionalization of production chains and the acceleration of the green agenda – offer opportunities for a region with abundant natural resources, a large consumer market, and the world's biggest economy in close proximity.

On one hand, a combination of high freight rates and political tension between the US and China position Latin America as an ideal candidate for nearshoring expansion to feed the biggest consumer market in the western hemisphere. Investments such as Braskem Idesa's construction of the US$400 million Puerto Mexico Chemical Terminal in Veracruz in Mexico, a landmark project for Latin America's petrochemical sector, highlight the potential for development in the region. "The current global situation reinforces this importance of establishing investments in Mexico. This is why Braskem Idesa decided to invest in Mexico initially, and the global focus on regionalization has reinforced our conviction," affirmed Stefan Lepecki, Braskem Idesa's CEO.

On the other hand, a failure to develop sufficient local production in Latam has left the region exposed due its reliance on US goods and feedstock. "Latin America will be significantly affected by how the US will perform in the next eight to 12 months," stated Rina Quijada, VP industry executive advisory – Latin America, at S&P Commodity Insights.

Quijada explained that as high inflation in the US can probably only be fixed by increasing interest rates, the strength of the US dollar in comparison to devalued Latam currencies will impact purchasing power. "We know that from Mexico to Patagonia, no country in the region has hard currency available, and the region is very much reliant on imported goods."

Manuel Díaz, Executive Director, APLA

Stefan Lepecki, CEO, Braskem Idesa

Rina Quijada, VP Industry Executive Advisory – Latin America, S&P Commodity Insights

Quijada elaborated that producers now require more local currency for the same volume consumed, and as prices for many commodities are going down, such as PVC and polyethylene, we could see inventory buildup and selling before prices tumble further.

Edison Terra, VP olefins and polyolefins – South America at Braskem, Latin America's largest petrochemical producer, reflected on the cyclical nature of the business: "We are currently seeing a reduction of all the petrochemical spreads on a general basis. In 2023, considering new capacities against demand growth, we will probably see a period in time where the margins will be lower than in previous years."

Despite this outlook, Terra noted that there are many opportunities for innovation. He concluded: "In terms of sustainability, either through renewable sources or circular economy, there is a lot of room for expansion."

While the short-term forecast appears turbulent, mid- to long-term demand projections remain robust. For example, the global market for ultra-high molecular weight polyethylene was valued at U$1.87 billion in 2021, but according to a July 2022 report from Straits Research, is projected to increase at a CAGR of 12.75% to reach U$5.51 billion by 2030.

Ana Paiva, ExxonMobil Chemical's (EMC) regional commercial lead – polyethylene Latin America, discussed the factors EMC expects to drive PE growth in the years ahead, including global population forecast to increase to 9 billion by 2040, with chemical products essential to modern life, economic development and improving standards of living. Paiva noted that this should drive petrochemical demand at a rate projected by EMC to be approximately 4% a year over the next decade, worldwide. "Products that will likely be required to support these growth trends, specifically on the PE side, include all related to packaging and agri-products, as food is essential. On the durable side, there are also some products with higher demand potential, such as automotive parts and medical devices."

Analyzing industry trends for the years ahead, Manuel Díaz, executive director of the Latin American Petrochemical and Chemical Association (APLA), spoke of how a reduction of globalization could benefit the region: "The extreme dependence on certain raw materials from particular countries has caused a rethink of the whole dynamic. Latin America should be more self-sufficient in certain products such as urea; this would be a logical geopolitical step for the future of the region, and goes beyond the current Russia-Ukraine conflict."

NEARSHORING: OPPORTUNITIES AND CHALLENGES

For decades, an increasingly globalized market for petrochemical and chemical products had driven multinational companies to establish production and distribution hubs close to the biggest consumer markets that have access to cheap feedstock and logistics capacity. The impact of Covid-19, from lockdowns to record-high freight rates and severe logistics bottlenecks, while unlikely to be the death knell of globalization, has highlighted the value of strengthening regional supply chains.

From a regionalization or nearshoring standpoint, Latin America holds significant potential. However, there is a pervasive feeling that the region is not fulfilling its potential, and governments need to establish a more business-friendly climate to incentivize long-term investments.

INEOS Styrolution America LLC, part of global chemical giant INEOS, has increased the acrylonitrile butadiene styrene (ABS) capacity at its Altamira production plant in Mexico, according to Ricardo Cuetos, VP Americas – standard products. Discussing the challenges of working in the country, Cuetos cited the proposed energy reform by the AMLO government and a lack of security when transporting goods.

"There needs to be an openness to the energy market, especially for the chemical industry, allowing manufacturers to generate their own energy for internal usage," he said, commenting that less bureaucracy would help the industry grow – a common theme when conducting interviews for this report. Cuetos observed that high gas and energy prices have resulted in an increase in fixed and variable costs, adding: "In North America, you have to be competitive to achieve real growth."

Ana Paiva, Regional Commercial Lead – Polyethylene Latin America, ExxonMobil Chemical

Despite the current challenges, Cuetos reaffirmed INEOS' commitment to the region, stating: "We believe Mexico has a bright future, especially considering the reshoring and localization of production chains. I also believe that we will see significant growth in Brazil and Argentina."

Richard Rehg, VP Commercial, Pilot Chemical Company

In addition to multinationals opening facilities in Latin America, the lure of nearshoring could stimulate M&A in the region. In December 2019, Pilot Chemical Company, the US-headquartered specialty chemicals firm, acquired Órgano Síntesis S.A. de C.V. (OSSA) located in Toluca, Mexico, representing Pilot's first production asset outside of the US.

Richard Rehg, Pilot's VP commercial, revealed that the OSSA acquisition has strengthened the company's position in the biocide market in two ways. "Firstly, it provided an increase in industrial production capacity for our ammonium quaternaries [...] Secondly, it brought us new capabilities we did not have before, specifically with regards to cGMP manufacturing capability."

Rehg added that this has allowed Pilot Chemical to supply a number of new products to the market, such as benzalkonium chloride, benzethonium chloride, and chlorphenesin, products used in hygiene, sanitization, and personal care applications throughout the world, expanding the company's biocide business from more of a historic Americas-focused quat market to a global export market. Looking forward, he commented that the OSSA acquisition gives the company a platform for further organic and inorganic growth in Latam.

For countries such as Mexico, where APLA's 42nd annual meeting will be held in November in Cancun, the hope is that governments will create the conditions for investment that match a number of inherent advantages, from geographical location, to free trade deals, natural resources and a skilled workforce..

Edison Terra, VP Olefins and Polyolefins – South America, Braskem

Jorge Buckup, President – Latin America, Univar Solutions

SUSTAINABILITY

The increasing viability of green solutions

The most notable theme of over 60 interviews conducted for this report has been an industry-wide focus on sustainability. Where this used to be the realm of the large producers, now the full value chain is aligned with a push for greener products and carbon emission reduction. As the relevance of this agenda becomes more apparent each year, the economic value of sustainable solutions is also becoming clearer.

"Townsend has been conducting surveys of PP and PE buyers for over 30 years and this year, the overwhelming majority have told us they consider supplier engagement and sustainability initiatives a key factor when they are evaluating supply partners," observed Barb Mitchell, managing director of petrochemical market research firm, Townsend Solutions. She added: "All interactions are now filtered through a green lens. 10 years ago, this would not have even been on the radar."

Charles Fryer, senior advisor at Tecnon OrbiChem, highlighted the opportunities for Latin America to play a bigger role in the fight against climate change: "The availability of natural gas is a first step towards reducing carbon footprint, and Latam has various natural gas resources which still needs to be exploited, such as in Bolivia, Argentina and Brazil."

Fryer pointed to discussions about a pipeline between Bolivia and the coast of Peru, and how this would benefit the chemical industry as feedstock, a source of energy, and as a means of reducing electricity costs and went on to highlight the possibility, particularly in Brazil, for bio-materials to be used to make chemicals. "There is a movement around the world towards using natural resources to make chemicals, but there is the realization that the cost for using bio-materials is higher than using petroleum or other fossil fuels. The only good news from high crude oil prices is that it makes bio-materials more competitive, which will stimulate the investment necessary for their development."

Marcus Silva, Air Products' general manager for Argentina & Brazil, noticed how people started to open their eyes to the biomethane market after the Russian invasion of Ukraine, as natural gas prices skyrocketed and investment into local biomethane production started to make more financial sense. "Today, landfills in Brazil are starting to become professionally managed to capture and sell the biomethane that is generated."

Silva revealed that Air Products is piloting projects using biomethane as fuel instead of diesel, commenting that hydrogen fuel cells are an important development for the future, but biomethane as fuel is a present reality. He noted that for biomethane produced in Brazil, you can have long-term contracts with price adjustment indexes which are related to local inflation and do not have any influence from commodity price fluctuations such as the price of oil. "Local production also allows for less exposure to a scarcity of products due to supply chain disruptions. Therefore using biomethane as fuel reduces business vulnerability while also addressing carbon reduction goals."

One of the challenges in the fight against climate change is that companies are having to swim against the tide. For instance, as temperatures rise, more air conditioning and cooling is needed, requiring more energy and generating more emissions. With this in mind, Elvira Neves, Eastman's Latin America Leader, discussed the benefits of BPA-free co-polyesters – film technologies that are effective for solar heat control. She elaborated: "They are not only used in car windows but also have been developed for glass in buildings, helping them better deflect heat and make the air conditioning and cooling of these buildings more efficient and environmentally friendly."

Adriana Nobre, Croda's managing director for Latin America, mentioned that the company's Brazilian site now runs completely on renewable energy, and Croda's carbon emission road map will support a reduction in carbon emissions by 20% in 2022 compared to 2018 figures. "Moreover, we are achieving this while increasing capacity. We have a clear roadmap for all our Latam sites to reduce carbon emissions by 50% by 2030 and to reach carbon neutrality by 2050."

SUSTAINABILITY-FOCUSED INNOVATION

The transition to greener products requires new technologies and innovation, as well as a collaborative approach between the different actors in the industry. This is providing numerous opportunities for technology providers. For example, in 2022, Braskem inaugurated its state of the art mechanical recycling facility in Indaiatuba, operated by Valoren. Two years earlier, in 2020, Braskem and Topsoe announced they had achieved their first-ever demo-scale production of bio-based monoethylene glycol (MEG).

Discussing the steps needed to transition to more sustainable solutions, Gustavo Cienfuegos, Topsoe's managing director for Latin America, suggested that a phased approach is practical: "As markets mature, we have been introducing more projects for blue technologies, which we believe are key to decarbonization. The world is not yet fully prepared for green technologies, as many are still very expensive compared to traditional technologies."

Cienfuegos gave the example of Topsoe's SynCor technology, which recovers gases and reduces the footprint of production plants by up to 80%: "This is exactly what customers need in this transition period to green technologies, to help produce ammonia and ultimately fertilizers while minimizing their carbon footprint."

José Magalhães Fernandes, president of Honeywell Performance Materials & Technologies for Latin America, spoke of the importance of increasing the scope of plastics that are recycled, particularly for those which do not have a recycling destination and are sent to waste management landfills or incinerated. "The company has developed an UpCycle Technology, which is a chemically engineered solution for converting plastics into renewable or pyrolysis oil that can be reused in the value chain. We are thus recovering waste plastics, sorting, cleaning, and processing them chemically to revert that plastic to its origin," explained Fernandes, mentioning that Honeywell has already scaled up this technology at the lab level and is now working with Spanish company Sacyr and US waste management company Avangard Innovative to scale it up to industrial level globally. He added: "Within Latin America, specifically Brazil, we are also having discussions with waste management companies to pilot this solution and technology in the region."

Another hot topic related to sustainability is water scarcity, an issue already severely impacting Latin American countries such as Chile, which has suffered a 12-year drought in its central region. Alejandro D´Hyver, CSR and communications manager – Latam North at Ecolab, revealed that the company helps clients save more than 215 billion gallons of water every year globally, representing the drinking water needs of 730 million people per year. He went on to highlight Ecolab's 3D TRASAR water performance system, which uses an ecosystem interconnected with smart technology and chemistry to actively resolve issues and offer results to improve industrial operations.

D´Hyver elaborated: "More plainly put, 3D TRASAR detects alterations that occur before incrustations, such as corrosion and bio-incrustation, and provides a suitable response for each of those alterations, preventing any damage to systems in our client's plants. It reduces operation costs, eliminates over- or under-dosing of solutions, and provides the highest protection of the assets." ■


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MEXICO

A nation with vast potential requires more support from the State

Martín Toscano, President, Evonik Industries Mexico

Eugenio Manzano, Executive Director, Pochteca

The paradox of Mexico's petrochemical and chemical industry is that its potential has arguably been elevated while the country's government has taken steps to actively weaken it. Tensions between the US and China have heightened, symbolized by Nancy Pelosi's visit to Taiwan in August 2022; freight rates from Asia remain high; and trade between Russia and the majority of Western nations has ground to a halt. Mexico has the idle petrochemical capacity to fill this void, an ideal location to supply both North and South America, and a young, skilled workforce. However, of all the major Latam markets covered for this report, the consensus of frustration with the government was most palpable in Mexico.

Energy sovereignty has been high on the agenda for the AMLO administration, headlined by a proposed constitutional reform to give more power to Mexico's Federal Electricity Commission (CFE). The bill was rejected by Congress in April 2022, but remains a priority for a government that has been unwilling to incentivize private investments. Limiting the supply of privately generated electricity has alarmed the country's industrial base, and from a chemical perspective, the failure to modernize the petrochemical facilities of State-run energy giant, Pemex, has resulted in a scarcity of domestically produced raw materials that negatively impacts competitiveness.

"In the global chemical sector, 60% of the costs of production represent either feedstock or electricity, which underlines the importance of being competitive in these areas," noted Miguel Benedetto, director general of the National Chemical Industry Association of Mexico (ANIQ), who revealed that, after the government's decision in April, ANIQ conducted a survey among its members which demonstrated that 75% of the chemical companies established in Mexico can produce their own electricity, or they have a private entity as a supplier, so only 25% of the industry demand for electricity is supplied from the State.

Discussing the potential damage the proposed electricity reform could cause, Benedetto commented that if it were to succeed, this would require that 75% of chemical companies in Mexico switch from their own or private production to CFE supply. "This would have two impacts – first of all, an estimated 3 billion pesos additional cost, which is a substantial amount; and secondly, we do not have the guarantee that the investments needed from CFE in order to support the growth of the industry would be made," he said, commenting that ANIQ has shared these concerns with the Ministry of Energy and the Ministry of the Economy.

Martín Toscano, president of Evonik Industries Mexico, underlined the importance of establishing more meaningful dialogue with Mexican authorities to adopt a common agenda and foster a more competitive chemical industry with the necessary raw materials and energy supply to keep pace with market growth. "It is important for authorities to realize the relevance of the chemical industry as a key driver of the economy, especially for exports," he stated, warning that if the current situation does not change it could represent an opportunity lost for Mexico considering the country's role in the China Plus One discussion in the US.

Abraham Klip Moshinsky, director general of Unigel Mexico, voiced his concern about the complaints raised by the US and Canada surrounding Mexico's compliance with the USMCA free-trade agreement. "If foreign companies see that Mexico is not respecting what they have signed and committed to, why would they consider investing more in the country?" questioned Moshinsky, stating that he hopes the government will react and change its path.

But damage to investor confidence will be difficult to restore anytime soon. "Private and foreign investment into the energy sector is currently being discouraged by the government as it intends to keep control, but this can be detrimental to the development of the hydrocarbons and green energies necessary for a more sustainable future," said Moshinsky.

Despite their worries over the direction of government policy, Benedetto, Toscano and Moshinsky all affirmed that the current global context and regionalization of supply chains present unique opportunities for Mexico's chemical sector. The extent to which this will be capitalized upon remains to be seen, but Braskem Idesa's US$400 million investment into the Puerto Mexico Chemical Terminal in Veracruz, which is expected to start operations in the second half of 2024, suggests a path forward for the industry.

A LANDMARK PETROCHEMICAL INVESTMENT

In 2021, Braskem Idesa reached an agreement with Pemex to review the commercial terms of its contract and establish conditions for Braskem Idesa to implement the Puerto Mexico Chemical Terminal – a landmark project that represents the largest current petrochemical investment in Latin America.

"This agreement gives us the support of Pemex, Interoceanic Corridor of the Tehuantepec Isthmus (CIIT), and the port authorities to progress this investment, including the concession of the right of way in lands that belong to Pemex," elaborated Stefan Lepecki, CEO of Braskem Idesa, who explained that by obtaining the concession, Braskem Idsea is allowed to implement its pier, and is currently in the process of buying the land from CITT and the port authority, as it is an ideal location.

"We have strengthened our relationship with Pemex and the government and, importantly, we will create an alternative to Pemex for ethane supply, which will provide more feedstock for Pemex to produce their petrochemicals to supply the industry in Mexico," stated Lepecki, describing the project as a win-win-win situation for Braskem Idesa, Pemex, and the Mexican petrochemical industry.

Patricio Gutiérrez, chairman of the board and CEO at Grupo Idesa, remarked that, once this new terminal is up and running, it will allow the industry to start making proposals to Pemex to try to optimize its existing assets and so operate at a higher capacity: "There might be options for companies to invest in certain assets together with Pemex and increase the production of different products that Mexico needs, such as ethylene oxide, to mention one example."

Discussing how the relationship between Pemex and the Mexican petrochemical industry has evolved, Alejandro Alanís, commercial director at Indelpro, a joint venture between Mexico's largest private petrochemical group, Alpek, and LyondellBasell, observed: "We are expectant of the new refinery being built in Dos Bocas, and if Pemex improves its operation and produces more raw materials, we could have more flexibility," said Alanís.

Although a stronger Pemex would undoubtedly benefit the Mexican chemical sector, its lack of investment into petrochemical production has created opportunities for vertically integrated distributors and traders to supply Mexico with the raw materials it needs.

N. Adriana Ramírez Millán, chemical sales director at HELM de México, revealed how seven years ago Pemex had a change of strategy regarding its production, meaning Mexico would need more materials such as styrene, and amines like glycol – for which the country's vast automotive industry had been particularly dependent on Pemex. "When Pemex decided to ramp down that production, we saw this opportunity, not only for the automotive industry, but also for many other applications like the formulation of some polyurethanes," detailed Ramírez, mentioning that it made sense not only from the demand in Mexico, but also because glycols is one of the largest global products for HELM and the company has very strong alliances with many producers around the world.

Although many of the long-standing challenges facing Mexico's chemical have yet to be solved, with a lack of investment into Pemex's petrochemical facilities emblematic of this, the strength of the Mexican Peso in 2022 – one of the only currencies to outperform a surging US dollar – points to a level of stability that should hold the country in good stead in the years ahead. ■

BRAZIL

Political ramifications in Latin America's biggest market

2022 in Brazil has been dominated by arguably the most polarizing election in the nation's history, pitting incumbent right-wing populist Jair Bolsonaro's Liberal Party (PL) against left-wing Luiz Inácio Lula da Silva's Workers Party (PT). The disparaging ideologies of the two candidates also mirrors the Latin American trend away from the political center, with populations looking for something different than the status quo. However, in the case of Latam's biggest economy, despite the views each candidate stirs up in their supporters and detractors, neither is likely to dramatically change Brazil's economic model, and business opportunities will remain for a country with such considerable resources.

For instance, while corruption and a failure to invest in infrastructure under the previous Lula administration was an opportunity lost for Brazil during a time of growth, the decision to continue Fernando Henrique Cardoso's (the president who preceded Lula's first term) broad economic strategy reaped dividends for the country, making a mockery of suggestions that PT will lead Brazil into any form of communism.

On the other hand, although supposedly a business-friendly government, not all of the changes implemented under the Bolsonaro regime have helped the chemical sector. For example, in May 2022 Brazil's chamber of deputies voted to end the REIQ (Special Regime for the Chemical Industry), a tax incentive created in 2013 which had allowed a reduction on the purchase of certain petrochemical raw materials. According to a study by Brazilian university FGV, the end of the REIQ is expected to cause losses to Brazil's chemical sector of R$11.5 billion in revenue and R$5.7 billion in added value, damaging competitiveness and creating an increased reliance on imports.

Another factor damaging the competitiveness of Brazil's large chemical sector is the cost of natural gas, which André Cordeiro, CEO of ABIQUIM, revealed is about three to four times higher than in countries with which the chemical industry competes. However, the country has the potential to produce a wide range of energy including gas, firstly by reducing the monopoly of state-giant Petrobras through the 'New Gas Market' regulations which were implemented in 2021, and secondly through the development of its vast array of natural resources, most notably the pre-salt reserves.

Cordeiro gave an illustration of the degree of potential competitiveness increase. "According to data from ABIQUIM, every 22 to 25 million m^3/day of rich pre-salt gas can make investments in the order of US$6 billion in a global scale cracker viable, with a multiplier effect on the economy, considering job creation and salary increases, tax collection, trade balance, multiplication in related chains, etc.," he said, adding that this would generate a virtuous cycle, resulting in new investments and increased production.

From a renewable energy standpoint, Brazil already has one of the cleanest energy matrices in the world and is well positioned to capitalize on its hydroelectric potential, the production and use of ethanol, and the availability of biogas and biomethane, in addition to favorable conditions for wind and solar energy.

BALANCING THE OLD WITH THE NEW

Each of the Brazilian petrochemical and chemical producers interviewed for this report were keen to showcase their range of sustainable, green products. For instance, when discussing Braskem's evolution since its creation 20 years ago, Edison Terra, VP olefins and polyolefins – South America, pointed to the launch of green polyethylene in 2010, producing ethylene from dehydrating sugarcane ethanol. "We have the target to reach 1 million tons of green ethylene and polyethylene by 2030," he added.

João Parolin, CEO of Indorama Ventures Limited's (IVL) oxides and derivatives (IOD) division for South America, explained how customer demand is stimulating R&D for greener products. He gave the examples of the detergents industry developing concentrated products to save on packaging and transportation to lower their scope three emissions, the paints and coatings industry moving more towards water-based solutions and products that have less hazardous air pollutants, and IVL's surfactants and solvents for crop protection that can be mixed into different solutions that are safer for farmers and the environment. In collaboration with customers, we have developed products that help produce concentrates which use less water, less packaging, and have a lower carbon footprint," said Parolin.

Since the acquisition of Oxiteno by IVL closed on March 31st 2022, the company is now the largest producer of ethylene oxide in the Americas, revealed Parolin, who affirmed IVL's commitment to the science-based targets initiative (SBTi), which encompasses topics such as circular feedstock and carbon offsetting.

Elder Martini, CEO of Elekeiroz, mentioned that the company has identified renewable products based on soybean oil as a growth area, and highlighted the acquisition of Nexoleum, a soybean oil startup, as an example of this strategy. However, Martini's next comment was a reminder that the bulk of the chemical market remains inorganic: "That being said, the inorganic sector led by our agricultural sector has been performing the best due to the global supply chain shock in the fertilizer space. This has accounted for about half of our revenue and continues to grow at a steady pace."

The fact that 'traditional' chemical products still account for the majority of global sales is important not to lose sight of, not only because these sales will fund ventures into greener products, but also due to the role chemicals and petrochemicals play in our day to day lives, from increasing food production to feed a growing population, to packaging that ensures produce lasts longer.

This was a point alluded to by Fabiano Bianchi dos Santos, executive director of Petrom Petroquímica Mogi das Cruzes S.A. (Petrom), the largest producer of phthalic anhydride in Latin America. Bianchi spoke of Petrom's strategy to evolve sustainably from a business standpoint, in small steps, producing materials that are valued by customers and final consumers. He elaborated: "We are already at a place where some customers are asking for more sustainable materials, but transitioning to a place where everything is green could take some time. In our industry it is important to give options to final users, and in time consumers will start to understand the importance of green products."

Bianchi went on to describe the market for bio-based plasticizers, for which Petrom has the technology to use alcohols from green sources and soybean oil to make 100% green plasticizers: "There is a niche of customers that value this and use the bio-based products in their formulations of compounds and films, and this is an area of the business we see as having strong growth potential."

A SUSTAINABLE SUPPLY CHAIN

The service providers in Brazil's chemical supply chain are also advancing sustainable initiatives aligned with their clients in the petrochemical and chemical space. Ultracargo, part of the diversified Ultra group of companies, is the largest port terminal operator in Brazil with a footprint of 955,000 cubic meters spread across six ports along the coast, including their biggest facility at the Port of Santos.

Décio Amaral, Ultracargo's president, explained how the company has invested in reducing its fresh water use and in rain water capture solutions, including developing a method to reduce water consumption by more than 90% and eliminating waste when cleaning storage tanks. "Previously it was a process that carried some risk related to working at heights, we had by-products that had to be disposed and a lot of water was used in the cleaning process," he said, elaborating that innovation from Ultracargo's facility management staff reduced water use for tank cleaning from about 1,000 liters (L) to 80 L, and now only requires two people to operate. "Furthermore, the waste water produced is more treatable. Through education and showing your staff the importance of sustainability, a virtuous cycle is established where increased efficiency leads to an increase in productivity and profitability."

Ultracargo is expanding its tanking facility in Aratu in Bahia in response to increased petrochemical activities in the region, according to Amaral, who underlined the company's mission to provide solutions that reduce logistics costs, turnaround times and bureaucracy. ■

Elder Martini, CEO, Elekeiroz

Fabiano Bianchi dos Santos, Executive Director, Petrom

Jorge de Zavaleta, Executive Director, Argentine Chamber of the Chemical and Petrochemical Industry (CIQyP)

Gabriel Rodríguez Garrido, Executive Director, Argentine Petrochemical Institute (IPA)

Martina Azcurra, Executive Manager – Chemicals, YPF QUÍMICA

ARGENTINA

High energy prices highlight the urgency to develop Vaca Muerta

Of the all the major markets in Latin America, Argentina has been the most affected by rampant inflation in recent years. Even before the pandemic, the Argentinian Peso (ARS) had devalued from a rate of ARS4 to US$1 in 2012, to ARS60 to US$1 in January 2020. By August 2022, it took over ARS130 to buy US$1 officially, with the unofficial 'blue' rate reaching a staggering 290 to 1. You do not have to be an economist to realize the impact such figures have on purchasing power, both from a consumer standpoint, and for a chemical industry that relies to a large extent on imported raw materials.

In July 2022, the Fernández government named its third Minister of the Economy in the space of a month, with lower house speaker, Sergio Massa, outlining his plan to boost dollar revenues and rein in inflation in an attempt to support a public suffering economic hardship. The severity of the situation facing Argentina, while highly unfortunate in the short term, could help stimulate the level of public and private investment necessary for the country to leverage its vast reserves of natural resources, from copper and lithium in the northern provinces of San Juan and Salta, to non-conventional gas in Neuquén.

Argentina is famous for the quality of its beef, but investment into another type of 'dead cow' holds the key to revitalize its petrochemical industry. "In 2022 there has been renewed interest in the opportunities of developing Argentina's Vaca Muerta natural gas reserves, which had dimmed for a few years, but has come into focus considering the war in Ukraine and increased commodity prices," commented Gabriel Rodríguez Garrido, executive director of the Argentine Petrochemical Institute (IPA), who pointed to the recent tendering of a gas pipeline in the region as an example.

Rodríguez explained how the petrochemical industry can be a multiplier to monetize Vaca Muerta – the second largest non-conventional gas reserve in the world – industrializing gas into polymers, fertilizers and chemicals, as well as developing local industry and creating employment opportunities. He highlighted the role of gas as a protagonist in the effort to reduce carbon emissions, and the relief that pipelines can bring by reducing imports.

Jorge de Zavaleta, executive director of the Argentine Chamber of the Chemical and Petrochemical Industry (CIQyP), echoed the sentiment that investment is needed for Vaca Muerta to develop into a regional hub that sustainably fuels the whole region, with an estimated regular gas supply of more than 100 years. He provided details of the pipeline tendered that in its first stage would join Neuquén to a distribution center in the south of Buenos Aires: "We expect that for the second half of 2023 we will be able to move more gas, and for 2024 to 2025 increase Argentina's transport capacity by 25%. As a consequence, we expect a second wave of investment in the upstream to supply the extra volume, which would

also be tied to gas liquifying. We believe Vaca Muerta could really take off in two or three years."

Argentinian State-run energy giant YPF has been the pioneer of pushing and promoting the development of Vaca Muerta as one of the country's strategic lines for growth, according to Martina Azcurra, executive manager – chemicals at YPF QUÍMICA. "Throughout the years, the company has improved its knowledge of Vaca Muerta, and as a consequence, has advanced in the optimization of its operations, focusing investments in the most profitable areas," said Azcurra, a statement illustrated by the level of investment YPF plans for Vaca Muerta in 2022: US$2.6 billion of the company's US$3.8 billion total planned investments for the year, representing an increase of approximately 40% with respect to 2021.

Azcurra went on to discuss YPF QUÍMICA's projects aimed at adding value to Vaca Muerta gas for fertilizers, plastics and methanol. "Through our JV with Profertil, we are assessing the expansion of their plant by adding an additional production train of approximately 1.4 million tons a year (t/y), which will help supply a growing regional market that is currently demanding over 8 million t/y of fertilizers."

Javier Sato, CEO, Petrocuyo

Juan Pablo Ceballos, CEO, Petroquímica Rio Tercero (PR3)

STIMULATING RECYCLING FOR A CIRCULAR ECONOMY

The need to stimulate recycling was one of the priorities highlighted by Argentina's petrochemical producers, each with their own initiatives to increase the circularity of their products. Javier Sato, CEO of Petrocuyo, suggested that the biggest challenge in this transition is the lack of education for residue separation, which is a cultural process that takes time to evolve. "That is why we are working with clients and their clients to support any initiative to use post-industrial and post-consumption plastics," he said, commenting that at the moment, people demand the same properties from recycled plastics, but are not willing to paying a little more than plastics from virgin material. "If we do not want residues to end up in landfills, governments must be ready to invest in the infrastructure and education to see those residues recycled."

Ariel Stolar, commercial manager – petrochemicals at Pampa Energía, revealed that the company's petrochemical division is where they have the strongest focus on sustainability, mirroring the comments of Sato that recycling requires a cultural shift and education to demonstrate both economic and environmental value. He added: "We have been taking action to obtain PCR (post-consumer recycled resin) to reprocess. One of the focus areas of this is making social cooperatives that try to separate the product before it reaches the garbage. Once separated, it can be taken to a reprocessing plant to turn into pellets and then transformed into a useful product."

Petroquímica Rio Tercero (PR3), the Argentinian petrochemical company that produces more than 130,000 t/y of diversified products from its Rio Tercero plant, is focusing on implementing a new vision for the company to ensure long-term sustainability, according to CEO, Juan Pablo Ceballos. Acknowledging that plastics are at the front of the recycling agenda, Ceballos underlined that the foam business is not foreign to this world's need to enter a circular economy: "There are a large number of developments to recycle mattresses, rigid foams and every kind of foam to reuse them. These practices are not significant in the region, but it is our responsibility to introduce them."

When discussing carbon reduction targets, the hurdle for many working in heavy industry centers around Scope 3 emissions – those that are not produced or controlled by the company itself. However, service companies are adapting to align with their clinets' goals, a point highlighted by Andrés Gerschenson, general manager of Argentinian logistics firm, Mesucan. "There has been an important change in recent years, whereby the full supply chain is expected to collaborate to reduce the carbon footprint, instead of working in siloes like before – there is no point in having efficient plants if the product will be distributed unintelligently," said Gerschenson, adding that Mesucan is working on migrating from diesel to more efficient fuels like CNG (compressed natural gas) and LNG, and moving to more efficient transport means. ■

ANDEAN REGION

The 'pink tide' increases uncertainty in an interconnected market

The so called 'pink tide' in Latin America began with the rise of leftist leaders in Mexico and Argentina in 2018 and 2019, but in the last two years it has been most apparent in the Andean region, with the appointment of Pedro Castillo in Peru followed by Gabriel Boric in Chile, and most recently Gustavo Petro in Colombia. For the business community in these countries the new governments bring about uncertainty from an investment standpoint, but it is also important to note that these political changes can impact chemical players in the region even if they are based in a neighboring country. Domestic markets in nations such as Chile, Peru and Ecuador do not have the scale of Brazil or Mexico, and therefore companies often serve multiple countries.

For example, Chilean polypropylene producer Petroquim sells approximately one third of its 80,000 t/y production in Chile, with the rest mainly sold along the Andean coast in Ecuador, Peru and Colombia, as well as small amounts in Argentina and Brazil, according to general manager, Jorge Garcia. He affirmed his optimism that the cyclical nature of the industry will lead to recovery, and in the meantime companies should reconsider how things are done, from costs to people and training. "We have made adjustments to redefine and optimize the distribution of tasks to create a more sustainable business."

Demonstrating how trade within the Andean region is connected, Garcia detailed how the availability of freights from Chile to Peru, Ecuador and Colombia has been deeply affected in the last two years. "We had clients, particularly in Peru, who were used to handling almost zero inventory. Suddenly, we had to handle delays of up to 40 days. We had to manage our own distributors and hire third-party distributors to support the production of our clients during this period," he revealed, before adding that while freights remain expensive, fortunately the situation has improved.

Peruvian distributor Químicos Goicochea had been considering expanding internationally, but is taking a cautious approach due to the political and economic backdrop the region is facing, according to commercial manager, Jaime Villanueva. "Who would have thought that Chile, a country with a long-running sustained economic policy, would elect a president like Boric; or that a previously fast-growing country like Colombia would elect Petro," he said, but commented that politics, like natural resources markets, are cyclical, and there will always be opportunities for companies with experience and expertise.

Werner Watznauer, president of the Chilean Chemical Industry Association (ASIQUIM), noted that Chile's chemical sector has seen strong growth in the industrial gases, adhesives, pigments, mining, pulp and paper and construction segments in the last two years, but inflation and supply chain disruptions have caused many materials and logistics to become extremely expensive. "For example, two and a half years ago, shipping a 40-foot container from China to Chile was approximately US$2,000, whereas today it can cost from US$12,000 to US$15,000 if you want it express," he said, adding that raw material price increases and volatility in the selling price of the final products had generated overpriced inventory. Furthermore, for a country used to around 2% or 3% inflation rates, the 10% inflation reached in 2022 has been a shock.

Although volatility in the last two years has created challenges, it has also provided opportunities in certain areas, particularly for local producers who could reap the benefits of Asian imports becoming more expensive. Christophe Jacob, CEO of Chilean company Austral Chemicals, noted that the bigger companies

Jorge Garcia, General Manager, Petroquim

Werner Watznauer, President, Chilean Chemical Industry Association (ASIQUIM)

Daniel Mitchell, President, Acoplásticos

that have high volume requirements and mainly source from Asia were far more affected by increased logistics and raw materials prices. He added: "Our purchasing focus changed slightly as we had to start importing some raw materials from Brazil and China. However, this has been beneficial for us as we are now purchasing directly from the supplier and not through a distributor, resulting in savings of between 30% to 35 % on many of our raw materials." On September 4th, 2022, Chileans rejected the proposed new constitution with a 61.86% majority. The result came as reassurance for Chile's business community that the population wants to be governed by more moderate principals.

COLOMBIA ENTERS A NEW ERA

On August 7th, 2022, Gustavo Petro officially took office, ushering in a new era for Colombia as the country's first left-wing president. While it is too early to predict exactly how the new government will impact the country's petrochemical and chemical sector, discussions surrounding tax reform have suggested 25 trillion Colombian Pesos (approximately US$6 billion dollars) will be required, which will impact many businesses, depending on how the reform is rolled out. "Chemical products are essential for everyday life, and I am optimistic that these markets will remain strong. The climate for investment is more concerning, as companies are holding off on capital expenditure to expand capacity or product portfolios before first seeing what happens," remarked Daniel Mitchell, president of Acoplásticos.

Detailing the performance of Colombia's chemical sector, Mitchell revealed that 2021 and 2022 had been positive, with growth rates above 15% for plastics and for other chemicals products in the first semester of 2022. He also highlighted the country's potential for increasing its chemical imports, which grew substantially in 2021.

Felipe Trujillo, manager – petrochemicals and products at Ecopetrol, revealed that the past 12 months have been the most successful in the history of the company's petrochemicals division, growing 49% in 2021 compared to 2019 results, and an estimated growth of a further 14% in 2022.

Regarding the new government, Trujilo commented that if campaign promises of an emphasis on sustainability materialize, Ecopetrol may be favored because it has several initiatives aiming for circular economy and the energy transition. "We are working on a very ambitious project which has brought great results, developing and testing the incorporation of postconsumption low density polyethylene plastic in asphalt with one of our business partners," he said, adding that Ecopetrol hopes that the incorporation of plastic in asphalt in four to five years is equivalent to the company's production of plastic, which would warrant a cycle closure of 100%. In November 2022, Gustavo Petro's tax reform proposal was approved in Congress, in a move that will raise an additional 20 trillion pesos (US$4 billion) annually for the next four years, in part through increased duties on oil and coal. The extent to which levies on the country's top exports will discourage investment will be closely monitored by the chemical sector.

CHEMICAL DISTRIBUTION

Market conditions and fragmentation foster a climate ripe for consolidation


German Torres, CEO, Brenntag Latin America


Rafael Gerlein, Americas Lead – Plastics, Tricon Energy

Latin America has the ideal petrochemical and chemical market for distributors. A scarcity of local production, a dynamic sociopolitical environment, volatile currencies and complex logistics all require local knowledge and capacity. Furthermore, many international producers want to sell to Latam's large consumer market, but do not want the risks associated with long-term capex investments. For these reasons, a wide variety of distributors are active in the region, from the largest multinationals to local specialists. However, the financial strain placed upon companies that lack liquidity, storage capacity or economies of scale over the last two years is pushing a fragmented market towards consolidation.

The three biggest chemical distributors in the world, Brenntag, Tricon Energy and Univar Solutions, according to 2021 sales figures from ICIS, all have a significant presence in Latin America. When speaking to GBR, all three of them mentioned how current market conditions have heightened the potential for M&A in the distribution and chemical business in the region.

German Torres, CEO of Brenntag Latin America, evaluated the challenges facing the industry: "Working capital management is a huge issue for everyone – distributors, customers, suppliers. The concern is not due to demand growing, but rather because pricing, which has significantly increased over the past couple of years. High logistics and supply chain costs leaves little room for flexibility, and businesses that do not have liquidity are suffering."

German company Brenntag, which posted record financial results in 2021 headlined by operating gross profit of over €3.37 billion, not only has the liquidity to weather turbulent conditions, but also to take advantage of M&A opportunities. Torres mentioned that the Latam region offers "tremendous opportunities for consolidation and growth," especially in the biggest geographies such as Mexico and Brazil, but also Colombia, Argentina and Ecuador. "The challenge is choosing which opportunities offer the most value," he added, revealing that Brenntag has been working to extend chemistries and portfolios well developed in North America to the entire Americas, which has led to opportunities to amplify distribution agreements, such as the deal announced in March 2022 with Arkema to distribute waterborne resins in Mexico.

Jorge Buckup, Univar Solutions' president for Latin America, suggested that there is high potential for growth as no one player has a large share of the total market in the region, and the share of total distribution within the chemical industry is still small as compared to the US and Europe. Commenting that consolidation has always been a lever for Univar to grow the company, Buckup gave the example of the December 2021 acquisition of distributor Sweetmix in Brazil to expand Univar's food ingredients and CASE (Coatings, Adhesives, Sealants and Elastomers) portfolio. "We continue to look at bolt on acquisitions where we can find both commercial and cost synergies, and in markets where we can grow above average economic growth rates and that are less cyclical. In general, this tends to be, but is not limited to, the specialties markets such as personal care, food, CASE and pharma," he said.

Rafael Gerlein, Americas lead for plastics at Tricon Energy, pointed to the company's plastics and fertilizers business lines as the two contributing most to growth in Latin America. Describing Latin America as the backyard for US-based plastics producers, Gerlein weighed in on the factors that strengthen the case for M&A: "New entrants, an abundant supply of product, global supply chain challenges, a more conservative financial sector, and a downturn on the economic cycle will all lead to a more competitive environment, and this will open up opportunities for consolidation."

Tricon's business in the region covers trading and distribution across four main product lines; chemicals 33%, fertilizers 25%, plastics 21%, fuels and others 21% (based on volumes in 2021), with Latin America representing approximately 20% of the company's global annual revenue in 2021, detailed Gerlein.

Pochteca has been one of the active chemical distribution players in Latin America in recent years, with its 2020 acquisition of Ixon Latam adding Colombia, Peru, Chile and Argentina to a regional footprint, which already included Mexico, Costa Rica, El Salvador, Guatemala and Brazil. Eugenio Manzano, Pochteca's executive director, commented that the company is currently enjoying organic and profitable growth integrating the recently acquired or created business units, like environmental and third-party logistics, working to replicate successful segments from one country to another and growing its supplier and customer base. He added that Pochteca is always interested in looking at opportunities that can bring synergies or complementary regions or segments to its portfolio.

Alanlyzing the Latam distribution segment, Manzano said: "Low trade barriers, increased regulation and customers and suppliers seeking to reduce the number of channel partners present an ever-greater challenge to smaller and medium size firms that are not highly specialized. Economies of scale in supply chain, logistics, information technology, technical capabilities, training and purchasing power are necessary to add value and lower total cost in a competitive and sustainable fashion."

One of the notable M&A transactions to take place in 2022 was the sale of distributor GTM to Dutch specialties group Caldic, which closed on March 1st. Rodrigo Gutierrez, former CEO of GTM and now Latam CEO for GTM Caldic, revealed that talks to merge the two companies began in early 2021, as synergies were identified to GTM's capacity in Latin America's industrial markets to Caldic's strength in the life sciences end markets. "We have been able to transfer knowledge, have more volumes to negotiate, consolidate logistics, and optimize in a way that we were not able to do before," said Gutierrez, noting that the GTM Caldic brand will be used until the end of 2022, with the Caldic brand adopted from January 2023.

Rodrigo Gutierrez, CEO – Latin America, GTM Caldic

The merger has not stopped the company from making further acquisitions, including the move to buy Active Pharmaceutica in Brazil in June 2022. "Latin America is a very fertile market for growth with significant opportunities," stated Gutierrez, commenting that GTM looks for companies that are strong in their niche markets and can add value, with a particular focus on (but not limited to) the life sciences segment. He added: "In spite of political changes in Latam, we believe in the region for the long term and will continue making acquisitions."

BRAZILIAN DISTRIBUTORS EXPAND INTERNATIONALLY

Of all the Latin American markets, the largest country in the region, Brazil, has the domestic market, complexity of logistics, and specific conditions (such as being the only country in the region to speak Portuguese) to require a vast array of distributors. Over time, a number of these distributors have started to branch out within the region and further afield.

Química Anastacio was founded in 1941, and has since created an international trading arm to its business, Anastacio Overseas, which initially expanded through Latin America, and has recently opened two new offices in Nigeria and South Africa to penetrate the African market. Matthias Vorbeck, managing director, revealed that Anastacio Overseas expects to increase its turnover from US$175 million in 2021 to US$250 million in 2022, citing the financial strength of the group that allows the company to purchase materials upfront as a factor in its success.

Jan Krueder, CEO of Química Anastácio, elaborated on the company's strategy to serve 18 different segments, each with their own strategy, technical team and marketing budget, launching 10 new products per month to achieve an annual target of 15% growth. "If one segment runs into crisis, there are other segments that can compensate. For example, the construction and home care markets are experiencing lower demand, but there is growth in the agriculture, food ingredients and pharma markets."

The model of establishing a distribution network in Brazil and then replicating this business strategy abroad has been adopted by MCassab, a family company established in 1928. "15 years ago we began developing MCassab's Latin American project in Argentina, and then expanded to Colombia in 2019 and Paraguay in 2020. We also have a subsidiary company in China," said Martin Font, general manager of MCassab Argentina.

Font explained that the company's continuous growth in Brazil has been the foundation of its regional expansions, and pointed to the US$35 million investment in a 55,000 m2 distribution center in Jarinú in São Paulo state as an example of MCassab's focus on creating capacity to serve the animal nutrition, animal health and human nutrition segments. ■

Jan Krueder, CEO, Química Anastácio

LOGISTICS AND SERVICES

Almost three years since Covid started, are logistics disruptions the new normal?

Martin Sack, Regional Head – Americas, Leschaco

Almost three years on since the first lockdowns in China took place, with delays still prevalent and containers still in short supply, is it fair to ask if such turbulence could be considered the new normal?

"This state of VUCA (volatility, uncertainty, complexity, and ambiguity) appears to be the new normal and we do not foresee things going back to as they were in the past," stated Martin Sack, Leschaco's regional head for the Americas, commenting that companies must adapt to this new environment and be proactive in their interaction with all stakeholders throughout the supply chain. "Traditionally in Latin America there has been a focus on doing quick and spot business, which is not conducive to consistent volumes. Therefore, the region needs to focus on planning business better, meanwhile space allocation on the vessels remains tight," added Sack, commenting that factors such as inflation, the Russia-Ukraine war and a possible global recession make it difficult to forecast for 2023.

As a counter point, Fabiano Machion, NewPort Tank's general manager for South America, remarked: "I refuse to say that what we have experienced since the pandemic started could be the new normal, because it is simply impossible to work like this in the long term."

Machion reflected on a context where significant effort is required just to put a tank on a vessel, rather than working on the logistics itself, but he observed that some improvements have been evident in 2022, especially in terms of space availability.

Helio Coelho, director of global solution sales – Latam at BDP International, commented that the logistics and supply chain scenario in 2022 has been very similar to 2021, with shippers and importers facing challenges due to the lack of space, equipment, and port congestion which dramatically impacts the flow of goods, creating backlogs. "Many companies in Latin America have been facing challenges, especially with their intra-regional supply chains […] It is very important that a common agenda between major economies in the region is established in order to improve rail and road infrastructure. I believe it is also key to reduce intra-country bureaucracy in order to attract private sector investment."

Expanding on the specific issues facing Latin America's logistics network, Héctor Midolo, Bolloré Logistics' CEO for Latin America, noted that currently in Argentina approximately 95% of cargo is moved by trucks, 1.5% through fluvial modes, and the other 3.5% via train. "Latam countries have the opportunity to transport via rivers and trains, but the challenge is that some rail systems were built approximately 30 years ago and have not been upgraded and can thus not be utilized," he said, reflecting that there is huge opportunity for the private sector to invest in the rail systems in countries such as Brazil and Mexico, which would reduce internal logistics costs within these countries as well as increasing sustainability.

SUSTAINABLE LOGISTICS: FROM HYDROGEN TO ISO TANKS

In 2022, the alignment between the whole supply chain to an increasingly green agenda has been apparent, with rhetoric backed up by investments in a variety of sustainability-related ventures, from green hydrogen to logistics solutions with less environmental impact.

In March 2022, a memorandum of understanding (MoU) was signed between Stolthaven Terminals and the Pecém Industrial and Port Complex in Brazil to explore a green hydrogen export hub in Ceará. Marcelo Schmitt, Stolthaven Terminals' general manager for Brazil, revealed that the company had been tracking the possibilities for Brazil to become one of the sourcing countries for green hydrogen since 2021, and approached the Pecém Port in Ceará as they had already advanced green hydrogen initiatives. Schmitt praised the business-friendly approach of Pecém port complex, which is 30% owned by the Port of Rotterdam, and has a project to build an industrial zone for the production of green hydrogen. Furthermore, the state of Ceará in northeastern Brazil has tremendous renewable sources, such as sun and wind, to produce green electricity 24 hours a day.

In addition to the agreement with Pecém, Schmitt revealed that Stolthaven had signed NDAs with six potential energy companies for different stages of the project to produce green hydrogen by electrolysis, adding that these companies are in the process of securing the water and electricity required with the plan to build electrolysis plants of different sizes over the next three to four years. “They will produce the hydrogen then convert it to ammonia, as so far, green hydrogen is not viable for storage and shipping long distances. We are also working with the port to look at the possibility of developing a green terminal for storing the ammonia and transporting it from the port to its final destination.”

Marcelo Schmitt, General Manager – Brazil, Stolthaven Terminals

Christopher Sandler, Managing Director, Eurotainer

Heidi Herzog, director of commercial and business development – Americas at Vopak, elaborated on the company’s new strategic agenda, including an approach to new energies and sustainable feedstocks that focuses on four primary pillars – hydrogen and hydrogen carriers; CO2 infrastructure; low carbon and sustainable feedstocks; and long duration energy storage. “With regard to hydrogen and hydrogen carriers, we are focused on enabling the development of the hydrogen economy and new hydrogen supply chains, including hydrogen carriers such as ammonia. In the Americas we are actively working on developments to enable new hydrogen supply chains through infrastructure development,” she said.

On the topic of low carbon feedstocks, Herzog commented that Vopak has years of experience storing the feedstocks for both bio and renewable fuels in the US, Mexico, Colombia and Brazil, so it is a natural progression to add low carbon fuels such as renewable diesel and sustainable aviation fuel across the company's portfolio as there is already significant demand for these new products.

While investments into new production chains take shape, the logistics industry has been investing in solutions that support carbon emission reduction. Christopher Sandler, managing director at Eurotainer, affirmed the company's commitment to a sustainable low-carbon future as part of the Ermewa Group, noting that the company's equipment, rail cars and tank containers fit into a green vision with minimal carbon impact, such as using containers that are 100% reusable.

On the equipment side, Sandler gave the example of Eurotainer's investment into different types of lighter carbon fiber-type containers that provide customers with a more sustainable option. "Many of our containers are now fitted with telematics technologies not only for tracking the equipment, but also to enable customers to measure temperature, pressure, and impacts to the container during the supply chain," he said, explaining that the aim of such initiatives is to connect what Eurotainer does into its customers' full supply chains, enhancing the way in which information is shared with customers and suppliers.

Demonstrating how modern equipment can increase sustainability in the transportation and storage of goods, NewPort Tank's Fabiano Machion detailed how an ISO tank can be used for approximately 20 years, and then be refurbished to use for another 20 years. "If you are using the right suppliers for the decontamination, cleaning, and testing, the process can be done fast, and an ISO tank can be used up to 10 times per year," added Machion, underlining the importance of selecting the proper suppliers that comply with local and global regulations in terms of disposal and safety. "In terms of shipping bulk products, I do not see any better option than ISO tanks, from both a cost and sustainability standpoint." In H2 2022, a dramatic tide change in the global shipping industry saw freight rates finally come down due to weaker demand and a stronger supply of containers. With this is mind, low prices are expected to overtake availability as the key theme for 2023.

PORT SERVICES AND PARTNERSHIPS

The international network of ports that serve as hubs for products to be stored and pass through are the gatekeepers of the global chemical and petrochemical industry. As such, their efficiency is central to the competitive flow of industrial trade. From a port perspective, South American is not yet as advanced as North America, Europe or Southeast Asia, but a number of private investments and partnerships are demonstrating the benefits of modernizing infrastructure.

The Port of Santos in Brazil is particularly relevant for the petrochemical and chemical sectors, handling 16 million t/y of product and 40% of the petrochemical volume in the country, according to CEO of the Port, Fernando Biral.

In recent years the Port of Santos has been going through a privatization process that has centered around investments into brownfield areas that will expand capacity from 160 million t/y to 240 million t/y for all cargo by 2040. A number of private companies interviewed for this report mentioned the noticeable improvements at the port, particularly from a technology standpoint. Biral gave examples of the digital transformations at Port of Santos which have brought agility: "We developed partnerships with start-ups to design and implement new systems around our workflow. For example, in return cargo, we can

Heidi Herzog, Director of Commercial & Business Development – Americas, Vopak

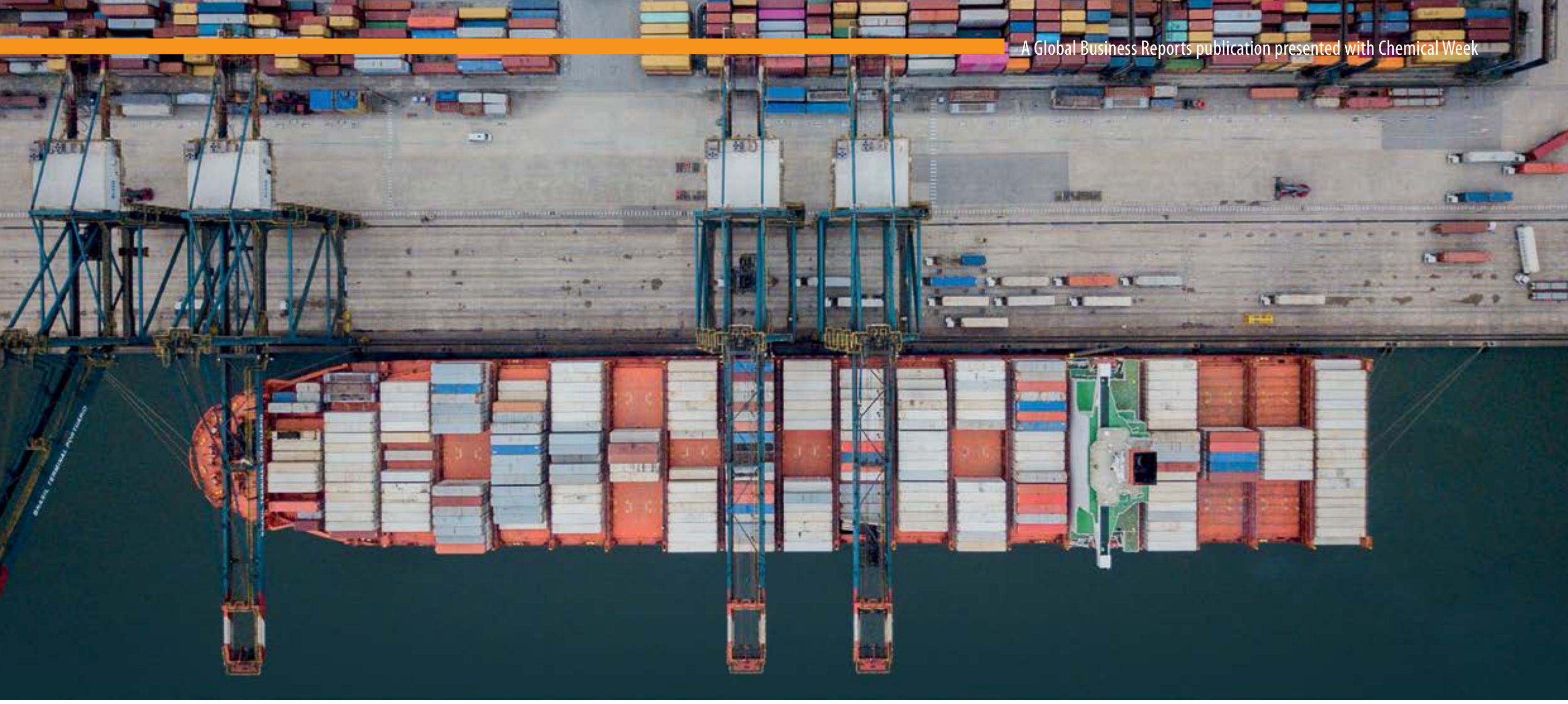

Image courtesy of Port of Santos

make sure that trucks that leave the port to drop off goods do not return empty."

Notable investments from private companies at the Port of Santos include Ageo developing a new berth for boats; Vopak working on an expansion plan for chemical product importation, including three new planned jet-lines to improve performance and reduce dock operations times; and Ultracargo doubling static capacity in five years, increasing from 152,000 m^3 to 297,000 m^3.

Collaboration between foreign and Latin American ports was one of the topics highlighted at APLA's 24th annual logistics meeting in São Paulo, June 2022. Among the attendees were representatives from the Port of Antwerp-Bruges and Port of Houston to explain how partnerships are increasing trade between regions, and describing some of the operational improvements that have reduced bottlenecks in their jurisdictions.

Matheus Dolecki, Port of Antwerp-Bruges' representative for Latin America, spoke to GBR about the partnership between Port of Antwerp-Bruges International (PoABI) and Prumo Logística at the Port of Açu, located in the north of Rio de Janeiro state in Brazil. "PoABI is not only a shareholder but also actively supports Açu in its development by sharing its expertise and global network," he explained, reinforcing the PoABI's long-term commitment to the Brazilian market as an important trading partner for a port with the largest integrated chemical cluster in Europe.

Expanding on PoABI's partnerships in Latin America, Dolecki pointed to the MoU signed with the Chilean Ministry of Energy at COP26 in Glasgow: "The aim is also to collaborate on the important strategic issue of setting up a corridor between both countries to ship green hydrogen or derivatives produced in Chile and received at Port of Antwerp-Bruges for further distribution in Europe."

Moacyr Pedro, Central and South America representative for the Port of Houston, outlined how the largest port on the Gulf Coast and the biggest port in Texas acts as a strategic gateway for cargo destined for Latin America, with the chemical and petrochemical sectors being the top markets for the port. He detailed how the port had been able to reduce the average waiting time for containerships to 2.9 days in June 2022, significantly under the global average of approximately 7 or 8 days at the time. "We are enlarging the channel (from 160 m to 240 m), developing the terminals, creating more berth for vessels, and reducing the time containers need to wait inside the terminal," said Pedro, adding that optimizing the trucking routes inside the port has also helped significantly to avoid heavy traffic in the terminal. ■