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Mexico Chemicals 2015

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Mexico Chemicals: Building A Better Future

The country's chemical sector prepares itself for a new era of the Mexican economy

Introduction: Recovery continues as structural reforms spur optimism

In the wake of Mexico's historic approval of structural reforms allowing for private investment in the hydrocarbons sector at the end of 2013, the Mexican market has been frenzied with optimism and growth projections. President Enrique Peña Nieto's success in pushing through this reform package is certainly one worth celebrating, and now that the reforms have been approved, the business community is more clearly evaluating its opportunities across sectors. For Mexico's chemical industry, the opening up of the country's oil and gas sector could be the game changer.

In decline since the 1990s, the Mexican chemical sector has struggled under the weight of Pemex and international competition. As Mexico's economy is the most closely linked to that of the United States, it has also been the most affected by the US recession. Yet, today Mexico has taken the lead in regional growth as its fellow Latin American powerhouse Brazil enters a recession. Upstream private investment spurred by the reforms could create downstream benefits to place the Mexican chemical market more firmly on the map.

"Mexico has developed quite well since the crisis. We suffered perhaps the most in Latin America due to our proximity and close relationship with the United States, but this also helped our companies to make the most of our resources and become stronger," said Fernando Hernández, head of country services for Clariant.

In the context of the wider economy, the past two years have seen relatively slow growth in Mexico, with a GDP growth of 1.1% in 2013 and a forecast for 2014 that was downgraded from 3%/4% to 2.3%/3.3%. Brighter prospects for the year ahead are being boosted by the country's strongest sectors which include automotive and food and beverage; both markets which are prime targets for chemical consumption.

Strong demographics, with over 52% of the population under 25, and a growing middle class, present robust growth opportunities going forward. "Mexico's GDP growth for 2015 is estimated to be around 3.8% in a market of 120 million inhabitants, with flourishing industries in many sectors," said Carlos Orbegozo, director of Merck Millipore Mexico.

Amidst the backdrop of relative economic growth, the Mexican chemical sector has posted encouraging numbers following nearly two decades of decline. Apparent domestic chemical consumption in Mexico has risen steadily from $33.7 billion in 2011 to $35.7 billion in 2012 and $37.1 billion in 2013. National production has not kept pace; however, after dips in 2011 and 2012, Mexico finally regained 2010 levels in 2013 with an output of $17.6 billion.

"The past year was no doubt a difficult one for the chemical industry. The slow growth in the overall economy has had a fundamental effect on the chemical industry," said Roberto Ortiz, general director of Nynas Mexico, the local subsidiary of the global specialty oil producer and a world leader in transformer oil supply. "Nynas has seen positive trends in our business segments, and we are enthusiastic as

Fernando Hernández, head of country services, Clariant

we will have additional supply for naphthenic bases oils in 2016. The Mexican market has been slower as expected one year ago, but we remain optimistic that it will show a positive trend in the mid term."

This incremental growth in chemical production has not been sufficient to stem the tide of Mexico's growing trade deficit. The chemical sector's trade balance hit a five-year low in 2013, with imports of $31.3 billion and exports of $11.8 billion. While exports have made a net increase in the last five years, this gain has not kept up with imports coming in to meet growing domestic demand.

"With over $30 billion of raw materials imported each year, the chemical sector is still active but is less integrated. Mexico's main export markets are in North America and Europe, which are the most effected by recession so Mexican exports have stayed at the same level," explained Gilberto Ortiz, vice president of energy within the chemical sector for industry association CANACINTRA and general director of law firm Gilberto Ortiz y Asociados.

With the promise of Nieto's approved structural reforms, the chemical sector is hoping for its recovery to accelerate. Expectations will have to be tempered, however, as investors remain in wait-and-see mode regarding downstream developments. A further challenge to the industry threatens, as domestic producers must soon contend with chemical capacity expansions underway in the United States. Mexico's government will have to fine-tune its policies related to the chemical sector in order to ensure adequate incentives to lure international players to Mexico and bolster domestic companies.

"With the coming of this new government we thought that there was going to be recovery, nevertheless, in the first year we have seen the opposite," said Juan Manuel Díaz, president of the chemical sector for CANACINTRA. "If there is no activation of the internal market, it will be very difficult for the industrial sector to maintain its position."

Chemical synthesis and blending manufacturing capabilities at Grupo Polak's Tlaxcala facilities. Photo courtesy of Grupo Polak.

Can Mexico's Structural Reforms Revive Chemical Manufacturing in Mexico?

Industry leaders are hanging hopes on the reforms providing the much needed impetus to bring manufacturing back to Mexico. In the future, the opening of the energy sector is expected to have a twofold impact on chemical production in Mexico as manufacturers count on energy and feedstock prices decreasing. "The government reforms will bring Mexico back to the production levels witnessed during the late 1980s and early 1990s, when Mexico was the seventh largest petrochemical producer in the world. Although it may take five to ten years, reaching growth of 5.5% within the petrochemical industry is certainly possible for Mexico," predicted Miguel Benedetto, general director of Mexico's largest chemical association ANIQ.

Already rising labor costs and increasingly strict environmental regulations in China have brought manufacturers back to North America. "Many companies that moved operations to China are now returning to North America. Mexico offers a viable option for businesses. The Mexican workforce is highly competitive in cost and quality compared to Asia. There are also significant logistical advantages in Mexico when serving the US market," said Herwig Bachmann, general director of Evonik Mexico.

Yet optimism remains cautious regarding the impact of the structural reforms. Industry leaders have voiced concerns that the downstream implications of the energy reforms are not well defined and international companies have yet to confirm investments in refining or petrochemical processing capacity in Mexico. "The only difference between promises of the past and this current plan for reform is that there is judicial reform accompanying these policies; however these reforms are still partial and are open to misinterpretation. The impact may not be as drastic as many people might imagine," said Gregory Polak, general director of Grupo Polak.

With a slew of cracking facilities slated to come online in the United States starting in 2017, Mexican producers will have to cope with regional competition made fiercer by US shale gas prices. According to reports by Bloomberg, global chemical manufacturers are investing a record $72 billion in US facilities. "The new energy reform will help remedy some of the problems with Pemex but there is a risk that this shakeup has come 20 years too late. Now that the United States is well on the path to becoming a major shale gas producer and petrochemical hub, there may be much lower demand for Mexican products," said Alfredo Ison, general director of chemical distributor Química Delta.

In this context, competitive reindustrialization is a top priority for the industry. "There is a list of about 3,000 products that are no longer manufactured in Mexico and we need to bring them back to the country," said Ortiz of CANACINTRA.

Through a CANACINTRA committee established to study Mexico's lost production chains, the association has determined the country has competitive potential to recover production in gas and natural gas derivatives, oil derivatives, and natural products. "Most importantly we need to develop refining capacity to develop oil derivatives to support downstream manufacturing. This would give us competitiveness again, but since there is an excess of refining capacity in the United States there is not short-term interest. We have hopes for more interest in refining in the longer term," said Ortiz of CANACINTRA.

Internal picture of a portion of Evonik's warehouse operation. Photo courtesy of Evonik Mexico.

As the impacts of the structural reforms will first need to trickle down from upstream developments, benefits to chemical companies will arrive in the medium to long term and have the potential to be diluted. "It is important for companies in the country not to rely on these reforms for increased business alone; they must continue to improve their standards so as to keep up with an evolving global market," counseled Hernández of Clariant.

Mexico deepens its ties with the global economy

Mexico's trade advantages are only set to multiply as the structural reforms come to fruition. The chemical market has been radically affected by the 1994 signing of NAFTA, which brought a flood of foreign-made chemical products into the market. The facilitating of trade between the United States and Mexico put pressure on domestic chemical manufacturing, while also opening its borders with the largest global economy.

"Twenty years ago we integrated our country into the global market and opened our

Bright outlook for Mexican paints and coatings

David Arciniega, president of ANAFAPYT, discusses the growth potential of Mexico's paints and coatings sector

Can you please give us an introduction to ANAFAPYT and tell us about the recent milestones for the association?

This year ANAFAPYT celebrated its 70th anniversary with a series of events to commemorate our history and to mark a new beginning. In 2014 we hosted a successful technical conference in Guanajuato with over 100 participants. At this event we discussed technical, logistical and business culture topics that affect the industry. ANAFAPYT also held two conference cycles in Mexico City, which were called the Cycle of Technical Conferences for Paints, and the Cycle of Technical Conferences for Ink. This year we have been focused on bringing in both international and national speakers to give our members more comprehensive information. We also hosted the Seminar for Innovations, where we encouraged our associates to take up different initiatives for innovation to develop the sector.

In addition, ANAFAPYT launched its digital publication this year, called *Pinturrerías*, which was formerly issued in paper form. The magazine is sent to over 15,000 readers. We have created a culture of communication using new technologies such as Facebook and Twitter, which have helped us to deliver our message to more readers.

ANAFAPYT has also been instrumental in the creation of a regional paints and coatings association this past year. Can you provide us with more details on this organization?

ANAFAPYT was a part of the creation of the Latin American Federation of Paintings and Coatings Manufacturers. This was a Mexican initiative that we launched in March with Javier Maldonado as president. The confederation was created in Argentina and will be a regional body for the industry, aimed at increasing cooperation and standardization.

Looking at the year ahead in your role as president, what goals do you have for 2015?

One of our key objectives for 2015 is to continue modernizing the association's communications technology, by means of teleconferences and streaming to take our conferences to the national and international levels. We are also working on increasing the number of international speakers that we have at our events. Last year we brought speakers in from Coatings Atlanta to our technical conferences. Another key initiative will be to increase our membership. This year we increased our members from 65 to 100 and we hope to keep growing next year. A final key initiative will be to establish an office in Guadalajara to be closer to the many companies that are growing in this area.

ANAFAPYT has increased its membership in the context of a consolidating market. How will this consolidation trend affect your members going forward?

There has been a lot of consolidation in the market, most importantly the purchase of Comex by PPG and the several acquisitions made by Mexichem. This consolidation, however, has been on an international level and has not affected local companies very drastically. We see this development as positive. The reorganization that is going to take place in the market will open up new opportunities for national companies. ANAFAPYT's membership represents 95% to 96% of all production in the national market. The remaining percentage of the market is made up of very small companies that we are interested in bringing into the association.

borders to foreign trade by signing the North American Free Trade Agreement. Since that time, we have multiplied our exports by seven and FDI inflows have increased fourfold," said Ildefonso Guajardo, Mexico's secretary of the economy.

Mexico has gone on to further develop its trade links by signing numerous free trade agreements with other global trading powers. "Mexico currently has 44 free-trade agreements (FTAs) with numerous countries all over the world and participates in FTAs with every Latin American country other than Brazil. Most recently Peru, Chile, and Colombia have entered into FTAs with Mexico, and Mexico is currently in discussions with Turkey in order to build this relationship," said Benedetto of ANIQ.

In the wake of NAFTA, Mexican companies were quick to take advantage of its trade partners to the north, although arguably at the cost of its trade ties with the rest of Latin America. With the 2012 signing of the Pacific Alliance, a trade bloc consisting of Mexico, Chile, Colombia, and Peru, Mexico is refocusing on synergies to its south. The group, which aims to integrate all of its respective trade agreements, agreed early on in negotiations to the immediate elimination of all tariff items for the chemical sector. "Mexico was very important in commercializing petrochemical products in South America, however with NAFTA Mexico has shifted its trade focus. Now the government is taking steps to reestablish trade with South America with the Pacific Alliance to strengthen relations," said Ortiz of CANACINTRA. "Because Mexico is not a part of the Mercosur bloc, we have to gain more confidence in the Latin American market."

Looking across the Pacific, Mexico has also taken an active role in negotiating the Trans-Pacific Partnership, an initiative to sign a free trade agreement between countries in Asia Pacific and North and South America, including Canada, the United States, Mexico, Chile, Peru, Australia, New Zealand, Malaysia, Singapore, Vietnam, Brunei and Japan. ANIQ has participated in these talks, lobbying on behalf of the industry for the proposed elimination of tariffs between member countries for manufactured products including chemicals, plastics, scientific instruments and electrical machinery.

Petrochemicals

Unlike oil and gas exploration and extraction, petrochemical manufacturing in Mexico has already been opened to the private sector. Private sector involvement has been limited to secondary processing, however, with basic and intermediate production being handled by state entities. Despite the open market, which has led to a Unigel-Pemex petrochemical partnership and now a massive Braskem Idesa ethylene joint venture, foreign companies have been wary of surety of supply over the years. "The difficulty before was that foreign petrochemical companies were not totally confident that Pemex would be able to supply them with raw materials," said Ison of Química Delta. "Now we hope that the predicted heavy investment upstream will help boost confidence and attract investment further downstream. Mexico needs this new capacity because the country currently relies overly on imports to meet domestic demand for gasoline."

Mexico's first major petrochemical investment in 20 years advances

With over 60% of the requirements needed for petrochemicals production currently being imported into Mexico, the decision by Brazilian petrochemical player Braskem and Mexican chemical company Grupo Idesa to invest in a $4.5 billion polyethylene facility is a much-needed step towards correcting Mexico's raw material deficit. "As of today, Mexico is importing 1.3 million mt/y of polyethylene. The production capacity of the Braskem Idesa plant, Etileno XXI, will be 1.05 million mt/y, which will help Mexico to substitute its imports with local production, particularly imports coming from North America. This is convenient for local customers, who are able to have closer technical support and rely less on inventory," said José Luis Uriegas, general director of Grupo Idesa.

The Etileno XXI project will need secure access to competitive raw materials, a risk which Brakem Idesa has managed to mitigate with a government commitment to supplying ethane over the long-term. "This was by far the most important ingredient in a project such as this. You cannot invest close to $5 billion in a project without the complete insurance of the supply of competitive raw materials," explained Uriegas.


José Luis Uriegas, general director, Grupo Idesa

At the end of 2014, the project was in its peak construction phase, with 17,000 workers on site. As one of the major projects that Mexico has seen in the last decade,

Grupo Beta's Investigation and Development staff is a team with wide experience on etoxilation and propoxilation processes development; they have created innovative technologies for the production of Hydroxyethylcellulose, synthetic lubricants, and polyalquilenglycols of high molecular weight. Photo courtesy of Grupo Beta.

Pemex Policies Shape Petrochemical Landscape throughout the Years

Othón Canales, chairman of chemical distributor Quimi Corp, outlines the history of Pemex's petrochemical developments and its impact on the private sector over the last three decades.

At the time when Pemex invested in its first ammonia plant in the early 1960s, Mexico was a closed economy. When the ammonia and other products plants were built, the private sector immediately invested in downstream plants. This created a scenario unique to Mexico in which primary petrochemicals were made by Pemex and secondary petrochemicals were made by private industry. By the 1980s, Pemex was one of the main producers of ammonia in the world. As a result, the private sector was investing in more downstream capacity. Not long after, however, Mexico signed the General Agreement on Tariffs and Trade (GATT) in the early 1990s and eventually NAFTA. With the opening of the economy, Mexico was flooded with petrochemicals. At this time, the government decided to discontinue its focus on the petrochemical industry and stopped investing in Pemex's petrochemical plants. This brought the private sector to a halt, as they were not able to back integrate raw materials.

Under the regime of President Carlos Salinas, Pemex was broken into five independent entities (one corporate and four subsidiaries), which had negative implications for the private sector. The Ministry of Finance interfered with transactions between the subsidiaries and determined the price at which Pemex's gas was sold. The price of gas was based on the price of gas in Texas and adjusted for freight and transportation cost. Immediately the price of gas soared in Mexico and Pemex decided to shut down its ammonia plants. Urea producers in Mexico lost their source of ammonia and CO2 and many producers collapsed. Over these years there were only a few survivors in the private petrochemical sector, including Grupo Idesa, Alpek, Kuo and Mexichem.

Braskem Idesa has had to take a proactive approach to equipment procurement and labor force development. "It is the largest industrial investment in Mexico and the largest petrochemical project to start in the Americas," explained Roberto Bischoff, CEO of Braskem Idesa. "We started this project ahead of the current wave of new projects, so we are in a better position in terms of equipment procurement and labor force. However we will also face some labor challenges as we work on training our operational workforce."

For its part, the company has invested in training its construction workforce and is now working to hire its operational workforce well in advance to provide them with training at Braskem's Brazil operations.

In addition to jobs, the megaproject will bring downstream benefits to small and medium-sized consumers of its polyethylene, of which the site will be producing both low density and high density. "Since 2012 we have been working with midsized Mexican firms to develop close relationships with them and to understand their needs in order to be ready to fulfill their requirements. We have more than 300 customers and it is our strategy to stay close to our Mexican clients to be able to offer them customized solutions," said Bischoff.

To extend this impact, Braskem Idesa has partnered with the government of Veracruz and CANACINTRA to support plastic bag makers in the region, a key consumer of their output. "Our initiative with the government of Veracruz is to create clusters that will attract investments in downstream industries that would use our products and in turn produce plastic bags or packaging that can be consumed in the region. These are less capital intensive industries, but can create a lot of jobs in the process," said Bischoff.

While certainly a positive step forward, Braskem Idesa's Etileno XXI project is not a silver bullet. Growing petrochemical demand will be too great to be satisfied with one facility, albeit it of this scale. "Although there will be new production plants set up to produce raw materials domestically, such as the Braskem Idesa project, imports will continue to be vital for Mexican producers," said José Carlos Tapia, general director of chemical distributor Trichem. "Mexico will continue to be a net importer of these raw materials for the near-term."


José Carlos Tapia Bueno, general director, Trichem

Yet the success of Etlieno XXI has set a precedent for investors. "We have shown that such projects can be successfully brought to fruition in Mexico, even in the aftermath of the worst financial crisis in recent history. As long as there is a guaranteed supply of competitively priced feedstock and support from government and other relevant stakeholders, which Etileno XXI has, these projects can work," said Sean Goldstein, partner at White & Case Mexico.


Raúl Baz, president and general director, Grupo Beta

Private players harness the power of Pemex

Pemex continues to play an influential role in the industry, supplying the main feedstocks to producers and consuming a majority of the industry's output. As a result, weak performance by the global oil and gas giant in chemical sales, sustaining a 6.6% decline in 2013, is being felt further down the value chain.

"When we started our facility six years ago, Pemex used to supply us with five very important raw materials. They have since stopped producing these products that we now have to get through importers. Today we import roughly 70% of our raw materials," said Moises Preciado, general director of Barnices y Resinas.

Grupo Petroquimico Beta (Grupo Beta), the only Latin American company producing hydroxyethyl cellulose, has its production plant in Coatzacoalcos, Veracruz, strategically situated in between Pemex Petroquímica's Cangrejera and Morelos plants. "Grupo Beta receives a substantial portion of its feedstock through a pipeline that comes directly from the Pemex facility; this is a substantial agreement for us. We have developed a lubricant that takes five minutes to transport to Pemex which allows us to be very flexible in terms of our client offerings," said Raúl Baz, president and general director of Grupo Beta. "Our goal is to start manufacturing more of the products that Pemex will need as it opens up at a better price than our competitors so that we can build on this relationship."

In order to combat rising imports, Baz at Grupo Beta advises companies to focus on specialty petrochemical products destined for domestic use. "Grupo Beta has a very important R&D team based out of Mexico that receives 5% of our sales. They work on consistently developing the latest HEC products as well as other polymers. Mexico imports more petrochemical products than it exports oil, which is something that needs to change. The Mexican industry as a whole should move to manufacture more specialty chemicals that can be applied to the oil and gas sector, and we aim to adopt this strategy at Grupo Beta," said Baz of Grupo Beta. Also expected to play a hand in decreasing Mexico's petrochemical imports is the energy reform's restructring of basic petrochemical processing regulation. "Previously the basic processing in the petrochemical industry was only in the hands of PEMEX," explained Alejandro LópezVelarde, partner at energy-focused law firm López Velarde Wilson Hernández & Barhem S.C. (LVWHB). "This division created inefficiencies in production, because at the same time that companies produce secondary petrochemical products, they also produce primary products reserved only for the Mexican state. According to previous Mexican law, PEMEX had to buy the basic petrochemical products at the cheapest price on the market, which is why no companies wanted to invest here."

Agrochemicals

Mexico's agrochemical sector is dominated by global players accounting for 70% of the market, followed by a highly fragmented market of small- and medium-sized companies. While consolidation has occurred in the last five years, significant potential remains for further merger and acquisition activity. Domestic and global players alike have been constrained by the introduction of 2004 regulations restricting production registration, while a growing focus on innovation presents opportunities for companies with R&D capability.

As the global population increases, agrochemicals will play a more important role in agriculture. "In Mexico's particular case, by the year 2050 our country will have around 150 million inhabitants, who will demand a greater quantity of food," says Maria Eugenia Villanueva, executive director of Mexico's largest crop protection association PROCCYT. "Our industry plays a fundamental role supporting agriculture to increase production, cover the food needs of a growing population and reduce the dependency on importing food from abroad. Without the use of agricultural consumables supplied by our industry, productivity of all types of crops, including conventional, hybrids, transgenic and even organic, will be reduced up to 40%."

Strict regulations spur market alignment

Since product registration regulation for agrochemicals was changed in 2004, the process has beleaguered the industry. While companies both international and local in scope have struggled with these regulations, which have been described as unclear and lacking transparency, domestic manufacturers have been most affected. Overtime, political opposition to the sector has taken its toll on production.

"In Mexico registration is done through the Federal Commission for the Protection against Sanitary Risk (COFEPRIS), which is part of the Ministry of Health. There is political opposition to agrochemicals within the government driven by the Green Party and they are not issuing any permits or registrations, which has brought the industry to a standstill," said Gregory Polak, general director of Grupo Polak, whose subsidiary Polaquimia manufactures agrochemicals. "In agrochemicals Polaquimia is the only company in Mexico that is still manufacturing molecules for agrochemical active ingredients. We were the first company and now the last," said Polak.

Although updated regulations were issued in 2010, the process remains prohibitively costly for many companies in the market. Yet this cost is necessary to ensure the safety of the industry's products, argues José Escalante, president of Velsimex and vice president of agrochemical association UMFFAAC. "The new regulations are great improvements when compared to the previous. Velsimex understands that the market needs to be regulated as the general public is consuming many of our products but there also has to be incentive to make money. The new regulation is much more balanced," he said.

With regulations now slightly more in check, agrochemical manufacturers in Mexico are focused instead on staying competitive in a rapidly consolidating global industry.

FMC Corporation announced late this year that is would acquire Cheminova, the Denmark-based crop-protection company for $1.8 billion. Both companies have significant footprints in Mexico and their integration will commence when the sale is completed in the early 2015. This is the second major agrochemical deal of the year affecting Mexico after Chemtura announced it would sell its agrochemical business to Platform Specialty Products Corporation in early 2014.


José Escalante, president of Velsimex and vice president of agrochemical association UMFFAAC


Juan Manuel Ramírez Muro, general director, IQC

Within the domestic market, producers are further squeezed by the availability of raw materials that: "Since 2009, the government has closed all semi-official companies that were supplying raw materials used to manufacture urea, ammonia, and phosphoric acid, which are very necessary for agriculture. This has led to Ibarquim having to fight for prices," said Julián Ibarlucea, general director of Grupo Ibarquim.

With Grupo Polak's Polaquimia subsidiary one of the few remaining active ingredients manufacturers in the Mexican market, agrochemical manufacturers are starved for raw materials. Without the option of relying on global networks as do the sector's multinational heavyweights, domestic producers are seeking creative value chain solutions. "The key strategy to stay competitive is to import active ingredients. By doing business in China, you can reach the same low costs of multinationals and large domestic companies for active ingredients," said Juan Manuel Ramírez, general director of Internacional Química de Cobre (IQC), which produces fungicides, insecticides and herbicides. "Beyond imports, smaller domestic companies like IQC also benefit from our structures. Compared to multinationals that have very large staffs, we can be more flexible and efficient."

On the other end of the supply chain, Velsimex is looking to take advantage of Mexico's geographic position in order to become a top global player. "Velsimex is currently looking at Africa and Asia as potential markets but Latin America currently presents a very interesting market. Mexico has many shared idiosyncrasies with these countries and with the many trade agreements that exist between Mexico and these countries, the potential for Velsimex is truly great," said Escalante.

Innovating to feed a growing economy

Expanding the sector's in-country innovative capacity is crucial as Mexico's small landowners face climate constraint and market consolidation. "Farmers are always looking for better quality seeds both in terms of yield and disease resistance. Roughly 75% of Mexico's area is reliant on rainfall for its irrigation, which can affect the crops, climate and yield depending on whether there is an excess of rainfall or a drought," said Manish Sirohi, general manager at United Phosphorous de México.

Companies are tapping into this need for innovation with investments in research and development capacity specifically within the Mexican market. United Phosphorus's subsidiary Advanta will be establishing an R&D center in Mexico this year, while Syngenta will be investing in a Seed Care Institute in Jalisco to provide services in seed safety testing, treated seeds analysis, and formulations development and application.

Syngenta's institute will be focused on product application in the Mexican market. "There are three areas that we will focus on at the institute: training farmers how to use this technology, improving the safe use of products, and increasing productivity. The Seed Care Institute in Jalisco is a key way for us to expand as we will develop new technologies for seed care," said Javier Valdés, general director of Syngenta Mexico.

Yet introducing new technologies to the market can be challenging in a fragmented market. "The use of technology remains regional here in Mexico with the majority of farmers on the Pacific coast, mainly Sinaloa and Sonora, utilizing technology in their processes. In the middle of the country as well as towards the southeast, the adoption of technology in farming practices remains low," said Ibarlucea of Grupo Ibarquim.

Many small-scale farmers do not have access to new technologies or the funds to implement them. Without government support, this is unlikely to change in the short term. "Currently there is a huge demand for maize, sorghum and rice, but Mexico only produces 22 million mt of maize annually, while it consumes 31 million mt/y. Rice farming areas have dropped by half, with production at around 180,000 mt/y and consumption at 1,000,000 mt/y," explained Sirohi of United Phosphorous de México. "This needs to change. The government must take initiatives in providing both credit and education to meet these needs. The private sector has been attempting to do this, but it cannot and should not be held responsible for this on its own. Public-private partnerships will be key in making this change," continued Sirohi.

Faced with the lower purchasing power of small agricultural producers and low agrochemical prices from multinationals, players such as IQC have taken further innovative approaches to developing their value chains. In a partnership with the mining company VES Capital Partners, IQC is developing the Veta Grande silver-copper project as a mine with on-site processing and refining capacity. "We plan to continue this model in the future and acquire various mining projects to put into operation. The copper we are mining we can then refine into copper sulfate and use for IQC's production, making our business more vertically integrated" said Ramírez of IQC.

Paints and Coatings

Latin America, previously a supplementary market for many paints and coatings producers, is quickly shifting to the forefront of corporate strategies.

Transactions spike amidst optimism

A number of high profile mergers and acquisitions have taken place in the last 18 months, indicating an attractive and active sector with significant growth potential. In the last year, industry leader Mexichem purchased PolyOne's specialty vinyl dispersion, blending, and suspensions resin facilities in Ohio for $250 million, while Axalta Coating Systems is expanding capacity within Mexico with a $10.5 million investment in their Tlalnepantla facility for transportation coatings.

Chemical giant DuPont, which has had manufacturing in Mexico since the early 1950s, is in the process of a global divestiture of its performance chemicals segment. The $7 billion per year unit will be spun-off, and fol-

AP plant located in Queretaro, Mexico which develops high quality water and solvent based products. Photo courtesy of AP.

lows the 2013 sale of the giant's automotive coatings business to Carlyle Group, which today is Axalta.

Global paint supplier Sherwin-Williams has set its sights on Latin America as a major growth market, taking advantage of Mexico's proximity to the US market by headquartering its new Latin American coatings group in Mexico City. "The protective and marine industries are growing very fast; considering the new regulations surrounding those areas, Sherwin-Williams is hoping to see the most growth there," said Gerardo Gurrola, director of research and development at Sherwin-Williams Mexico.

Sherwin-Williams' decision to invest in a regional coatings group follows a thwarted attempt to acquire family-owned Mexican paints giant Comex. A 2012 bid by the company to buy Comex would have doubled their Latin American business but was rejected due to antitrust issues.

Comex has proved an attractive target, as a new acquisition deal was announced in June 2014, this time with PPG Industries as the buyer. Following the October 2014 approval of the deal by Mexico's Federal Economic Competition Commission, PPG Industries has successfully completed its takeover of Comex. The $2.3 billion transaction is just the latest acquisition in Latin America that PPG has made in recent months.

"PPG is not strong in the architectural market, which is our strongest point in Mexico, so we see great opportunities for synergy there. They also do not have any operations in this part of Mexico, so we are looking to work with them in this regard. We are also hoping to take advantage of their knowledge and experience with industrial OEMs to expand our network in that market," said Alejandro Morones, vice president of global research and development at Comex.

Synergies with the US market are growing among Mexican paints and coatings providers, with Comex subsidiary AP, a producer of resins, now eyeing the market for expansion. "In the past, we focused our exports on the Latin America market, but more recently there has been a shift in the market and we are examining the United States as a potential expansion area," said Luis de Vecchi, national director of sales at AP.

Also looking south, the Mexican paints and coatings industry is working toward regional integration in order to harmonize standards and facilitate exports. The regional association Latinpin is the result of these efforts, spearheaded by Mexico and Brazil. Current members also include Colombia, Uruguay, Ecuador, and Argentina. According to the newly formed organization's head, Javier Maldonado, the move toward regional representation will help with regards to standardization and image. "Our main objective is to send all the industry standards that are already approved to the other countries to incorporate them. In the near future, we want to submit these to the International Paint and Printing Ink Council (IPPIC)," said Maldonado, president of Latinpin and general director of architectural paints manufacturer PSI Pinturas. "The Mexican paints and coatings industry has been increasing our relations with Brazil because both countries are the giants of Latin America. Brazil in particular is very well-developed in terms of innovation and has many new technologies in the market that we can learn from," explained Maldonado.

Maggie Flor Gómez, general director, Charlotte Chemical

Towards a more specialized and greener industry

Along with the growing revenues of paints and coatings businesses in Mexico, producers are also responding to a demand coming from the market for better products. "Mexico is seeing an increase in technology and higher quality of paints and products," said Samuel Troice, general director of Pinturas Acuario.

For its part, the National Association of Paints and Coatings Manufacturers (ANAFAPYT) is supporting the industry in its quest to raise its specialty paints and coatings products. "The energy and economic reforms will help to kick start projects in the industry. ANAFAPYT is working with its members to obtain government resources to start up new projects. We are trying to take advantage of this moment to help the industry develop more innovative products faster," said David Arciniega, president of ANAFAPYT.

Particularly for Mexico's fast-growing and export-focused automotive and aeronautic industries, finding international-standard lo-

Comex's Research Center for Polymers. Photo courtesy of Comex.

cal materials is key. "The coatings industry is growing much faster with the introduction of numerous specialty products for the energy sector and the automotive industry. There have been a growing number of parts manufacturers coming to Mexico that can provide an expanded market for us. Companies are very interested in trying new technologies and developing new products as the market matures," said Maggie Flor Gómez, general director of chemical distributor Charlotte Chemical, and president of the chemical distribution section at ANIQ.

The energy sector reforms are also opening up opportunities for advanced paints and coatings products. "PEMEX and CFE are going to start building new power plants as a part of the energy reforms. The kinds of coatings these will require are completely different than what we already produce, and this change is exciting to us," explained Gurrola of Sherwin-Williams.

"At the same time, the average customer has changed. Price is no longer the main issue; environmental friendliness, performance, and quality are all drivers for improvement in the industry to keep up with changing demand," added Gómez of Charlotte Chemical.

Key to meeting the demands of an evolving marketplace is close collaboration with suppliers. "Our innovation strategy is to first optimize our processes to achieve lean manufacturing, and secondly to work closely with our suppliers on introducing their innovations into our production. For example we send PSI Pinturas technicians to observe our suppliers' innovations to ensure they are efficient and environmentally-friendly," said Maldonado of PSI Pinturas.

For WYN de Mexico, a local polymer producer, the company is ramping up its technical capacity in order to penetrate the growing paints and coatings market. "We have brought in technicians to improve our technology in this area to better serve the market. While we used to only sell polymers and adhesives that we bought from suppliers, we have moved into producing our own adhesives to supply them directly to our customers. We are now moving towards ready-to-use products," explained Jorge Saldaña Lozano, general director of WYN de Mexico.

With growing interest in environmentally-friendly products, companies are also

Jorge Saldaña Lozano, general director, WYN de México

adjusting their product lines to meet consumers' increasingly stringent sustainability requirements. "The industry needs more green products. This is an idea that Comex has embraced recently, starting with the removal of lead from our paints. Being a larger company, it is easy for us to institute this change, and we are hopeful that others will follow," said Morones of Comex.

An industry initiative led by ANAFAPYT is in the process of establising a level of standardization across the Mexican industry for green products. "We are looking to establish what the best percentage level of VOCs should be, as well as excluding APOs and formaldehydes. We want to set a standard so that when a product is produced with a green paint stamp in Mexico, it will comply with the agreed regulations," explained Saldaña of WYN de Mexico, one of the companies taking part in the standardization process.

Specialty chemicals

While the specialty chemical sector does not stand to benefit from Mexico's energy reforms as directly as petrochemical producers, the market has nevertheless grown in recent years on the back of increasingly specialized sectors. Multinationals have found an expanding market for their specialty solutions, while both domestic producers and distributors are positioning themselves to take advantage of these growth opportunities. With margins for commodities increasingly shrinking, specialties are a robust solution to the challenging quest for profitability.

Specialties wanted: Mexican manufacturing fuels growth

In August, Mexico surpassed Brazil to garner the title of seventh largest automotive producer, on top of its rank as the world's fourth largest exporter. Auto OEMs are flooding into the country with a focus on high-end vehicles, including BMW, Kia, Mercedes-Benz and a joint venture between Renault-Nissan and Daimler. Conscious of this golden opportunity, Mexico's chemical manufacturers are gearing up their specialty divisions to meet the needs of these luxury vehicles. "Mexico is becoming a key market for our products in the automotive manufacturing sector, which is growing very fast. The boom in the automotive industry is one of the most important

expectations that we have in 2015 and the coming years," said Álvaro Galindo, sales manager for Dow Corning de México.

Dow Corning's products for the Mexican automotive sector are targeting performance improvements such as reducing noise, vibration and harshness; long-term lubrication and extreme temperature resistance. The Mexican Association of the Automotive Industry (AMIA) forecasts Mexican automotive production reaching 4.5 million vehicles by 2020, up from an expected 3.2 million ve-

Alerted by a camera and sensors of a possible imperfection, an Impac employee stops the automatic production line for a few seconds to examine the modified bitumen roll. Photo courtesy of IMPAC.

hicles for 2014, meaning the market has huge growth potential for chemical suppliers.

EIQSA, a PVC compounding company founded in 1954, like many of its counterparts is making the automotive sector a key focus for research and development activities. "Our main plan is to be more present in the automotive industry, which is growing very quickly in Mexico," said Ezra Bejar, deputy director general of EIQSA. "The aeronautical industry is also growing in Mexico and we are looking to penetrate this market with our materials, specifically in compounds."

Specialty giant Eastman, which grew from an import office in the country to owning two plants in Mexico via its global acquisitions. "Mexico represents a significant portion of Eastman's Latin American market," said Juan Carlos Parodi, vice president and managing director of Latin America at Eastman. "We have very diversified markets that we work in, with a key focus on the automotive sector, building and construction and industrial intermediates."

Global specialties company Evonik has manufactured chemicals in Mexico since 1968 and expects manufacturing to remain the company's main focus in Mexico in spite of the expected changes coming to the market. "The Mexican population will have more buying power and will consist of a larger middle class that is able to afford higher value products. These shifts in the market will lead to more opportunity for Evonik requiring more specialty chemicals and products," said Bachmann of Evonik Mexico.

Echoing this strategy, the Brazilian chemicals giant Oxiteno has doubled its capacity in Mexico over the last decade. "Our first priority is to look after the local Mexican market because there is a great demand that is not yet fully developed. There is a very low consumption per capita of personal hygiene products as well as foods, so these are great areas to grow. We want to serve these industries and use Mexico as an export platform to look after the NAFTA market and Latin America. We export products to Colombia, Costa Rica and else-


Federico Soto, marketing and sales director, Organo Síntesis

where in Latin America," said Gerson Moacir Secomandi, commercial director of Oxiteno Mexico.

For its part, Evonik Mexico is planning to partner with Grupo Idesa through its 100%-owned subsidiary CyPlus GmbH in a joint venture for the construction of a 40,000 mt/y capacity sodium cyanide plant in Coatzacoalcos. "This sodium cyanide plant will utilize cutting-edge technology in order to produce a raw material that is currently imported into Mexico. The market in Mexico continues to grow in an interesting way, and this partnership will yield substantial production over the next few years," said Bachmann of Evonik Mexico.


Gerson Moacir Secomandi, commercial director, Oxiteno Mexico

As the Mexican market grows in importance for international producers, local specialty chemical companies with manufacturing capacity have proved to be crucial in providing a foothold for the region. Organo Síntesis, a Mexico-based producer of fine chemicals for personal care, water treatment and disinfectants, offers toll manufacturing to international companies that do not have their own production facilities in Mexico and want to export to Latin American countries. "In such cases, they seek out Mexican companies like ours to deliver high quality results. Approximately 35% of our revenue comes from toll manufacturing," explained Federico Soto, marketing and sales director for the company. "We expect our toll manufacturing business to continue increasing in the next few years. We are looking to cooperate with more international companies. These companies are not always interested in building new plants because such investments require a lot of capital; it is often better to have a local partner for manufacturing such as Organo Síntesis."

Such local-international tolling partnerships pave the way for joint ventures that can benefit not only production but also innovation, a key area the industry is looking to improve.

Mexico's potential as an innovation hub

As opportunities for specialties growth emerge from automotive and aerospace manufacturing, specialty players are also hopeful that the energy market will soon become more innovative as Pemex transforms. With Pemex looking to be more profitable and private oil and gas investors coming in, Mexico has the potential to become a center of excellence for energy-focused performance chemicals.

"With the new reforms, many players will have the opportunity to offer new technologies and products. For Dow Corning, we are focusing particularly on our products that have applications in the oil and gas industry. Our silicones are very well-recognized for


Eastman's Uruapan Manufacturing Site.
Photo courtesy of Eastman.

their high efficiency in antifoams and demulsifiers," said Galindo of Dow Corning de México. "We plan to develop synergies with service providers to Pemex by offering new technologies and improving the productivity in Pemex.

For global specialties giant Clariant, its modern ethoxylation plant located in Coatzacoalcos is 2 km from Pemex's ethylene oxide facility, which makes the Clariant facility one of the company's stronger manufacturing sites for ethylene oxide derivatives. At its Santa Clara complex, Clariant has applications labs, a distribution center and a multi-business site with productive plants belonging to pigments, masterbatches and industrial and consumer specialties. Its Puebla production site also houses laboratories for its functional minerals business unit.

While multinationals and large domestic players are relying on their global R&D centers and deeper pockets, innovation is occurring on smaller scales thanks to cross-industry partnerships and collaboration with institutions. "Unfortunately, the government does not provide enough incentives to promote innovation; this comes from within the industry. Most companies here reinvest their profits to fund expansions and research, which becomes difficult for smaller companies like Macropol," said Eloy Cordero, general director of Macropol. "The current reforms are a step in the right direction, but it will be some time before we see government-funded innovation here."

"The first challenge for innovation is to develop new molecules for different market applications, which must be eco-friendly and approved by the different relevant agencies. The second challenge for conducting R&D is capital, which we need for further investments in our plants. Although some financial supports from the government and banks exist, they are limited; therefore we usually finance new projects," echoed Soto of Organo Síntesis.

In the absence of adequate government support, agile domestic players are consulting academic and research institutions to leverage their chemical expertise. "Resymat has an important agreement with the National Autonomous University of Mexico (UNAM), whose graduates with doctorates and master's degrees we have working in our plants. We also have a partnership with Tecnologico

Oxiteno's Plant in San Juan del Rio, Queretaro. Photo courtesy of Oxiteno.

OSSA pilot plant relies on a highly experienced team of chemists and chemical engineers supported by a modern laboratory and pilot plant equipment. Photo courtesy of Organo Sintesis.

de Monterrey focused on plastics. In addition to academic partnerships, we also have agreements with research companies such as Ciqua and Ciateq," said Aldimir Torres, commercial director of Resymat, a market leader in polyester polyols.

Going forward, Mexico's potential to become a regional center for innovation in the chemical industry will depend upon Mexican companies taking a similar approach to research and development. Furthermore, as de Vecchi of AP predicts, the country's strong demographics will prove to be a significant advantage. "Mexico is poised to become a leader in innovation. Never before in the history of Mexico have we had such a demographic balance where 50% of the country's population is less than 25 years of age. The country's young people will help Mexico to become an innovation hub, providing products and solutions that will be used around the world," said de Vecchi.

Distribution

As consolidation occurs on a global scale for chemical distribution, growth opportunities are heating up for the remaining players. On a regional scale, Latin America saw chemical distribution growth rates of 8.6% according to a recent report issued by the Boston Consulting Group. Within the Mexican context, on top of this growth chemical distribution enjoys a vital importance to the industry's value chain.

Consolidation breeds fierce competition

As the trade imbalance persists for Mexican chemicals, distribution will continue to play a crucial role in the industry's value chain. "Mexico continues to rely heavily on imports, as is evident by the 10% growth in imports annually, which is the result of growing demand for materials but flat domestic production," said Tapia of distributor Trichem. "There is a net deficit of production close to $20 billion. Relative to the size of the industry, the chemical distribution market is huge," added Othón Canales, chairman of the board of directors at Quimi Corp, a Mexican-based Latin American chemical distributor.

In recent years, as chemical consumption continues to grow, the distribution market has attracted the attention of multinational distributors who are increasingly identifying Mexico as a prime target for expansions. Multinational interest has manifested itself in significant market consolidation as international distributors are entering the market by acquiring local players. "In the early 2000s, the top ten chemical distributors in Mexico were all family-owned companies. Today it is a new world where big multinationals like Brenntag and Univar are acquiring more businesses," said Johnny Silva, managing director of Disan Mexico, the Colombia-based Latin American chemical distributor.

As a result, much of the distribution business has been transferred to the accounts of very few. This is in line with global trends, as chemical manufacturers are increasingly rationalizing their distribution channels. "Today, six or seven companies control approximately 30% of the market," said Ison of Química Delta, one of the last remaining distribution leaders that is family-owned.

Remaining players in the market are either international companies with aggressive growth plans or small, specialized distributors. "The distribution space in Mexico is a very fragmented one. The top few are very focused on commodity-type products, with the rest focused on a variety of products and services to support the industry. There are 80 registered distributors within ANIQ, but perhaps over 100 including those who are not registered," said Arturo Hoyo, country manager of Nexeo Solutions.

Market consolidation is showing no signs of stopping as global companies like Nexeo are continuing to enter Mexico and looking for fast growth. "It is a large but somewhat disorganized market. As such, there are a number of distributors ready for partnerships in the interest of consolidating and combining efforts. Nexeo's strategy is not about expanding our footprint so much as it is about improving our offering, so we have to conduct a very careful assessment of any potential partners. Not every company is a viable option for partnership, but we do see immense potential as we evaluate the market," added Hoyo.

Taking control of the supply chain

To combat the fierce competition driven by a shrinking playing field, chemical distributors are finding more ways to participate in the value chain, whether it is increasing value added service offerings or moving fully into production.

Mexican specialty chemical distributor Macropol has responded to the quickened evolution of the market by adding in production capability. "Since 2007, we have been running a factory to produce chemical products as well; the idea is to support our commercial lines with this. In the past, products evolved every 20 to 25 years. Today the rate is much faster. Macropol's activity is currently split 70% distribution and 30% production. Our goal is to increase production to between 50% and 60% by 2016," said Cordero of Macropol.

Pursuing a similar strategy, distributor Trade Chemicals is currently manufacturing and importing products in equal measure. "We hope to increase our manufacturing. The most important products for us are silicon emulsions, which are used in many markets," said Miguel Valdivia, commercial director at Trade Chemicals. "A number of distributors are moving into manufacturing, which is a smart way to develop the supply chain. Overall, this move means better prices and increased competitiveness with other companies. We also have more control over the quality of our products when we are producing them since we know how they are made."

While specialty chemicals and niche materials have traditionally been left to small players, Mexico's leading distributors are increasingly targeting specialties for growth, putting further pressure on small and medium-sized companies.

Química Delta, which is aiming to increase its specialties and differentiated products business from 40% of overall sales to 60%, joins a rank of larger distribution players aiming to grow through specialties. "In the context of the market consolidation, it is important to find ways to add more value for our customers. This can be achieved not only through a focus on specialties but on products with higher value added in general," said Ison of Química Delta.

Colombia-headquartered distributor Disan has

First run on extruder. Photo courtesy of Macropol.

been in the Mexican market for ten years and is also targeting specialties for growth. "Disan has put a bigger focus on specialty products where there is room to grow and larger margins," said Silva of Disan. "Large chemical manufacturers want to focus on their production, R&D, and key customers. This creates more and more opportunities for distributors to add value into the supply chain."

Taking advantage of global supply networks

Only twenty years after NAFTA opened up Mexico's markets to the world, chemical distributors are taking full advantage of Mexico's geographic positioning and numerous free trade agreements to optimize their sourcing networks. Increasingly, even domestic companies are opening branches in key markets around the world to find better prices and quality. "Charlotte Chemical has an office in San Antonio, which is mostly strategic. Most of our products are imported. Two percent of what we sell is locally produced, with the rest coming from the United States, the United Kingdom, India, China and Japan. Until the current reforms take effect, we will continue to import. We aim not to compete with local producers, so we sell things that are not available here," said Gómez of Charlotte Chemical.

Charlotte Chemical is one of many Mexican distributors scouring the globe, with many looking to China as the country's reputation for quality improves. "More distributors are bringing items from China because the quality is getting better, but not in all cases. You have to be very selective in what you import from China. We were the first company in Mexico that imported products from China for the textile industry. In every case we have to double check the quality of the products, which involves asking for all of the specifications and certifications from companies before we start doing business with them," said Salvador Solodkin, president of Mexican chemical distributor Materias Químicas de México (Maquimex).

This global strategy succeeds in price competition and is enjoying greater acceptance in the market. "Five years ago, quality control would have been a major concern for us when working with companies in Asia. Nowadays, we are happy to say that suppliers there are equally as reliable as their European or American counterparts," said Alonzo Autrey, general director of DVA Mexicana.

DVA Team preparing a customer trial in a coating pan. Photo courtesy of DVA.

Service Sector

Supporting the chemical and petrochemical manufacturers and distributors of Mexico, an array of service providers have come from abroad or sprung up locally to provide sophisticated solutions to the industry's non-core activities.

Industrial gas heats up

Mexico's industrial gas market has seen considerable growth in the last five years as a result of the country's strong manufacturing sector and its oil and gas activity. In 2012, according to a report by CryoGas International, the indsutrial gas market in Mexico grew by 6%, although this growth was tempered by the peso's deflation. Overall, on a regional level, Mexico has grown to now account for 30% of the Latin American market, gaining 2% in 2012.

Evidence of this boom can be found in a spate of investments from the country's main industrial gas players. Leading industrial gas suppler Cryoinfra, a partnership between Grupo Infra and Air Products, completed a new merchant liquid plant in Veracruz this year. The facility, Coatzacoalcos Dox, was built to fulfill the nitrogen gas supply contract that Cryoinfra won for Braskem IDESA's Etileno XXI plant. "In addition to supplying to Braskem IDESA, the plant will also supply oxygen and nitrogen to Pemex's Cangrejera and Morelos complexes, as well as liquefied oxygen, nitrogen and argon to other customers in the petrochemical and chemical industries. This plant has new technology as well as a very good regional location," said Dieter Femfert, commercial director of Cryoinfra.

Beyond servicing Mexico's petrochemical and chemical producers through its merchant plants, Cryoinfra has also developed expertise to provide turnkey projects to the sector. "At Clariant's Coatzacoalcos plant we have developed a turnkey liquid hydrogen system to supply hydrogen for their amine process. We not only provided the product, but also the tank installation, pipeline, and flow meters, as well as preventive and corrective maintenance," said Femfert.

Joining already-established Mexican players such as Cryoinfra and Praxair de Mexico, Air Liquide completed in 2013 a new air separation unit to supply industrial gases to Altos Hornos de Mexico (AHMSA),

Cooling of reactions. Photo courtesy of Cryoinfra.

adding over 1,500 mt/d of industrial gas to the Mexican market. Air Liquide's investment marks a growing capacity and growing interest from international industrial gas providers.

As the energy reforms attract new industrial gas suppliers aiming to work with a newly liberated Pemex and the nascent private sector, competition within Mexico's industrial gas space is set to grow fierce. "In the next five years, other players will enter the market, so it will be a very hard fight for us. We have a very good structure in place. The new players coming to Mexico will be looking for the good price, service and experience that Cryoinfra can provide," said Leopoldo López, director of special nitrogen services at Cryoinfra.

Engineering demand on the rise

Even before the excitement generated by the structural reforms, international engineering and construction companies were moving into the country to service its growing industries. In the chemical space, multinational firms such as Ferrostaal, Maire Tecnimont, and CH2M HILL are competing with local companies to meet needs from the basic to design engineering for petrochemical and chemical plants. Rather than having a cannibalizing effect on the market, however, international and local firms are joining together to take on the industry's projects. Most notably, a joint venture between Odebrecht, Technip and ICA Fluor was awarded the engineering, procurement and construction of Braskem Idesa's Etileno XXI complex.

Mexico's Economic Outlook

Ildefonso Guajardo Villareal, Secretary of the Economy of Mexico, comments on the country's growth potential

The bank of Mexico has cut its forecast for this year's GDP growth from 3% to 4% down to 2.3% to 3.3%. What are the reasons behind this anemic growth?

The Mexican economy is highly integrated to the global economy. Our ratio of total trade to GDP is approximately 66%. This makes our economy highly susceptible to economic fluctuations outside of Mexico. Looking at the internal factors, 2013 saw the transition to the new government, and it was necessary to rethink how entire systems were managed.

Today, the economies of our main trading partners are in much better shape and our own domestic policies are better structured. As such, we are expecting to see stronger growth in 2014 than we saw last year.

There is a split between Mexico's large formal network of businesses and informal small and medium enterprises (SMEs). How does the government aim to address this?

Twenty years ago we integrated our country into the global market and signed the North American Free Trade Agreement (NAFTA). Since that time, we have multiplied our exports by seven and FDI inflows have increased fourfold. At the same time, both inflation and interest rates have come down. However, none of this translated into strong growth for Mexico because the underlying mechanisms governing how business operates were in dire need of reform.

The structural reforms aim to level the playing field for all businesses. One goal is to provide a regulated economy in which SMEs have access to more competitive financial resources and cheaper energy.

Where will the Mexican economy be three years from now?

The main target of President Peña is to reinstate the possibility of 5% to 6% growth by the end of his term. All of our economic policies are geared to stimulating growth.

He has acknowledged that a dichotomy exists between unproductive SMEs and dynamic modern industry, and his policies aim to redress this situation. At the end of the day, we must increase productivity. This will be accomplished by incentivizing productive organizations to expand and by helping low productivity organizations become more sophisticated.

Elisa Guinea, regional business group manager, environmental services, CH2M HILL Mexico

As the automotive, aerospace and energy sectors ramp up, their chemical suppliers are dusting off their expansion plans for the coming boom, requiring significant engineering capacity from suppliers.

"CH2M HILL's clients in the chemical industry need new facilities, improvements at existing plants, and assistance complying with regulations and wastewater treatment requirements," said Elisa Guinea, regional business group manager of environmental services for engineering firm CH2M HILL. "To meet these needs, we offer a cross-market, integrated service approach where we provide engineering services to clients throughout all the phases of their projects, including basic and detail engineering."

In time to meet increased demand for engineering in Mexico is a new generation of engineers coming out of the country's universities. By 2012, Mexico was graduating 130,000 engineers and technicians a year, surpassing graduate numbers of countries such as Canada and Germany. Gradually local engineering offices are taking on greater shares of projects and are set to increase this workload given the ample supply of engineers. "Most of the engineering work we do in Mexico is done by our local teams. From time to time we need support in basic engineering from our experts in other countries; however in the last nine months we have done work for our office in Houston, as well as worldwide installations with different clients," said Guinea of CH2M HILL.

Engineering support is not the only prerequisite to promote the development of the chemical industry in the country. Mexico is lagging behind in infrastructure, as Maximo Roberto Pepe, managing director

Mexico and Hispanic Latin America Manager at Tecnimont Mexico, points out: "For petrochemical plants you need either naphtha or gas. Mexico should, first of all, upgrade their logistics. They still need a lot of pipelines to connect the reservoirs with the areas where new plants could be built. Secondly, they need to modernize their existing refineries to keep up with the new sulfur content requirements. Thirdly, Mexico should expand their oil and gas resources, or they could use the shale gas from the U.S. but this would require more pipelines and connections through the border".

Maximo Roberto Pepe, managing director Mexico and Hispanic Latin America manager, Tecnimont

Listed on the Milan Stock Exchange, Maire Tecnimont provides EPC solutions in areas such as polyolefin projects, urea and ammonia plants and sulfur recovery systems. The group, that has the Middle East and Russia as its main markets, expects to strengthen its presence in Mexico in the upcoming years, thanks to its capacity to develop projects in the $4-5 billion range. Through its subsidiary Kinetics Technology (KT), it is already working with Pemex in a hydrogen production project, while it also participates in the Etileno Siglo XXI private venture. For Pepe, the energy reform will bring great opportunities to do more work with Mexico's NOC: "The new situation in Pemex is very favorable in our view, because they would like to open up to new companies. The reform will allow Pemex to incorporate a more agile management to speed up the process for the new required projects. They are now using an open book model to avoid surprises with the lump sum projects that incurred in cost overruns".

Water treatment rides the wave

With high expectations in Mexico's energy sector, producers and service providers for the water treatment market are preparing their offerings to meet this eventual growth. With global players expected to come in, along with their international standards, the market is readying itself for an uptick in demand for specialized solutions.

SNF Floerger, a France-based provider of water soluble polymers and the largest global producer of polyacrylamides, views the country as a key market for marketing its products. "Today, Mexico is the biggest country in Latin America in terms of the market for water soluble polymers, with the polyacrylamide business worth $100 million a year," said Rubioof SNF Floerger.

For ChemTreat, a US-based water treatment company, demand for their products and services within Mexico's chemical industry has been flat; however the company still counts among its clients some of Mexico's large chemical players, providing water treatment services to the Pemex and Mexichem propylene joint venture, while also

working with DuPont at their expansion in Tampico and with Mexichem again at Matamoros.
As water treatment chemicals within the chemical sector specifically have not seen much growth, suppliers are looking at niche markets to apply their expertise. "We are very active in specialties such as home care and personal care. These specialties are driving the growth of the business here in Mexico," said Rubio of SNF Floerger.
The most promising applications for such specialties are in Mexico's oil and gas market. The energy reforms have already prompted plans to enter the market for many of ChemTreat's customers. "We have a lot of customers in the United States that are planning to come to Mexico with whom we already have corporate agreements. We also plan to eventually do business with Pemex," said Raúl Morales, director of ChemTreat Mexico.
SNF, which is making considerable investments into its chemical production facilities in North America, is also targeting the oil and gas market, creating polymers for Gulf Coast projects. When Mexico's energy sector will partake in this North American boom remains a matter of debate. "In Mexico, this kind of growth is expected in the next five to ten years as investments are made in shale gas and offshore oil. We will not see the impact of the structural reforms for another five to 10 years. If the market evolves as expected, Mexico's consumption of these kinds of chemicals will increase quickly," said Rubio.
As Mexico's market grows and becomes more sophisticated, water treatment suppliers are looking to innovation to reduce safety risks and service costs. "We are offering smart release technology to our customers, which uses pellet chemicals instead of liquid chemicals. By packaging the chemicals in a bag in pellet-form and not in barrels, humans do not have to touch the chemicals and there is no chance of spills. It is a secure method that can be delivered through DHL or UPS and is biodegradable and phosphorous-free," said Morales of ChemTreat.
Speaking of the crucial importance of recycling water, SNF Floerger is devoting resources to developing new technologies. "There are many technologies like graphene, ultra filtration, and nuclear energy that will help us to treat water at lower costs. This is a focus for chemical companies right now because we have less and less water available from wells," said Rubio of SNF


Inertization of ducts and pipes. Photo courtesy of Cryoinfra.

Floerger. “Companies require intensive water consumption and must recycle as much as they can.”

Infrastructure and logistics

As Mexico deepens its ties with global markets, logistics are increasingly affecting the industry’s bottom line. Covering large distances across the country and managing shipments in Mexico’s increasingly globalized economy has put stress on both manufacturers and distributors. As a result, the role of third party logistics is growing in the market, along with distributors who are stepping up to the logistics sphere.

Infrastructure upgrades in the pipeline

One of the key challenges facing the industry from a logistics perspective is the need for updated transport infrastructure, particularly when it comes to links between its biggest trading partner the United States. According to 2012 data, 77.5% of Mexican exports go the United States, yet transporting across the border remains costly. “The price of raw materials and logistics continues to be a major problem here in Mexico. The government has abandoned rail freight and instead continues to transport everything by road. This means additional costs for distributors,” said Ibarlucea of Ibarquim.

This additional cost comes from road and rail networks that cannot support the volumes that need to be transported. “We have an insufficient highway network and we need a better railway system. Rail has huge potential for the chemical markets, and some chemical industry customers are using the railways for long-distance transport into the United States. We would like to see more railway development inside Mexico to improve efficiency when it comes to time, flexibility and costs,” said Martin Sack, general director of Leschaco Mexicana.

Martin Sack, general director, Leschaco

A national infrastructure plan unveiled in April 2014 has laid out a plan for $590 billion of public and private infrastructure investment between 2014 and 2018. The plan is an update to a 2013 predecessor that had outlined $340 billion, and is heavily focused on improving communications and transport for the energy sector. With 6 of every 10 pesos to come from the government, the developments will depend on the ability of the public sector to tackle this ambitious plan.

“We are optimistic that Mexico overall has a unique strategic geographic position. If our government puts these programs into place, we will have a very positive future in Mexico,” said Sack of Leschaco Mexicana.

Upgrading capacity at Mexico’s airports and ports will also be necessary going forward, as importers and exporters encounter delays at these hubs. DVA Mexicana, the Mexican subsidiary of German distributor DVA, relies heavily on Mexico’s logistics infrastructure, as the company imports the majority of its products from China, India and Europe for use in Mexico’s pharma, food, industrial and specialty markets. While delays occur often at points of origin, because of the heavy volumes of products being imported to Mexico, DVA Mexicana argues that port processes are sufficient to keep their business running on time. “In our experience, within Mexico the logistics framework is suitable for our needs, but the biggest problem we face is when vessels coming from abroad do not arrive on time. This happens a lot with vessels from China; given the demand they have, their freight needs are always changing. This makes it logistically quite challenging to coordinate efficient and timely client deliverables. However, once products reach the ports, we have no issues,” said Autrey of DVA Mexicana.

Finding solutions to logistics bottlenecks

To meet the challanges, the logistics industry has boomed in the last 15 years in

Mexico. Leschaco, one of the first foreign players to arrive in Mexico, noted that the industry has multiplied thanks to small and medium-sized local companies entering the market. "When we arrived in 1998, there were about 80 companies in freight forwarding. Fifteen years later we have more than 300 companies and another 300 to 400 indirectly linked to the market. More international players have come in, and small and medium-sized national companies have been established. Today Mexico has a developed open market as in Asia and Europe," said Sack of Leschaco.

One such local company that has moved in to meet the logistics supply gap is Mexico-based Orion, whose logistics business grew out of its chemical distribution activity. "Working in chemical distribution, we saw that Mexico did not have proper conditions to transport chemical products and specialties, so Orion built its own transportation enterprise to provide this to the market," said David Larrauri, general director of Orion. To help clients optimize their supply chains,

Photo courtesy of Leschaco Mexicana.

logistics companies are dedicating more specialized attention to specific client needs and taking advantage of technological innovations to improve service offerings. "Especially in Mexico, we are developing in-house and in-plant presence with our employees. We already have Leschaco employees present in seven companies in Mexico working directly with customers. Leschaco is taking more and more control of the supply chain and implementing key account management activities, so our customers can focus on their core businesses," said Sack of Leschaco Mexicana.

The need for specialized attention stems from challenging customs procedures that many manufacturers are not equipped to handle. "After Brazil, Mexico has the most complicated customs requirements in the world, and we are able to place people in-house with clients to ensure that their equipment is transported seamlessly into and around the country," said Mauricio Boy, president and CEO of logistics provider Cargo Group International.

In addition to customs navigation, a key challenge for transport is the security risk in the north of Mexico, exacerbated for the chemical industry by the hazardous nature of the materials in transit. "We deliver all over the country, including remote, mountainous areas where there are security problems. To deal with this, we conduct intelligence operations when preparing our routes to assess risk. All of our trucks have a GPS on board and we stay in constant communication with our operators, who are well-trained. We have a satellite system for monitoring our fleet that transmits information on the fleet's whereabouts at all times," said Larrauri of Orion.

To further protect against these risks, companies such as Orion work to obtain and maintain certifications, including ANIQ's Emergency Transportation for the Chemical Industry (SETIQ) and the International Cyanide Management Institute.

Distributors looking to gain an edge in the market are also focusing on expanding their logistics capabilities. One of Mexico's largest chemical distributors, Alveg, is the only distribution player in the market to invest in its own maritime terminal. "We always deliver products with our fleet of 200 units controlled by satellite tracking. A problem that we see in the short term for the country is storage capacity," said Rodolfo Ramírez, general director of Alveg.

With a clear vision from the government to expand transport capacity, the private sector will need to support these plans and follow suit with storage capacity expansion.

Conclusion

While challenges lie ahead for the industry in the form of tough regional competition and a transforming economy in the wake of the historic reforms, Mexico's chemical industry has the potential to not only return to its levels of decades past, but also to become a leader in the chemical landscape of the Americas.

Cargo Group International's operations team moving a tank from Altamira to Navolato, Sinaloa. Photo courtesy of Cargo Group International.

Close collaboration between the government and the private sector will be crucial to the industry's ability to leverage the new reforms into a growth opportunity. "The United States is experiencing a boom and business is beginning to return to North America, presenting an amazing opportunity for Mexico. You need to look beyond how the reforms affect the oil and gas industry and also consider how they impact the entire value chain," said Tapia of Trichem. "In order for the government to fully achieve success it remains vital that it coordinate with the private sector to implement and draft long-term plans and also assure that objectives are defined."

Beginning with petrochemical expansion, cheaper and more available raw materials can trickle downstream. The startup of Braskem Idesa's Etileno XXI project is a first step that could launch further investments up and down the chemical value chain. "Five years from now, Grupo Idesa plans to be in the expansion phase of our projects," said Uriegas of Grupo Idesa. "The reforms are a powerful step in allowing greater access to feedstock, a necessity in increasing production in the future."

"With more investment in the chemical sector, we are hoping to see the growing trade deficit in raw materials reverse," added Ortiz of Nynas Mexico. "We have seen the overall chemical industry decline in the last two decades, as a result of NAFTA and other factors, and we hope that we can rebuild a strong industry for tomorrow."

A focus on locally-made raw materials, coupled with a distribution sector made strong by competition and a growing base of international and domestic manufacturers focused on quality, the correct ingredients are in place for a robust sector going forward. With more active government support for research and development and training, Mexico can have what it takes to play a larger role in the global chemicals marketplace. •

We would like to thank everyone who took the time to participate in our research for this Pre-Release. The final report will be published in Chemical Week in March 2015.

If you would like to be interviewed for the report please contact Josie Perez (jperez@gbreports.com).

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