the Brazilian Chemical Industry

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INTRODUCTION

As the world’s seventh largest, Brazil’s chemical industry has contributed to the rise of Brazil as a global economic powerhouse. The country’s pre-salt oil exploration, biomass potential and the rise of the middle class have the ability to drive economic growth, positioning Brazil amongst the top five largest global economies and chemical industries worldwide.

Critical to ensuring the sustainability and profitability of the sector is new investment. A potential investment in new capacity of $167 billion investment between 2010 and 2020 is required to decrease the trade deficit and meet rising demand. Over the past two decades, investment has been far below the needs of the country, resulting in a chemical product trade deficit that grew from $1.2 billion in 1990 to $26.5 billion in 2011 (See Figure 1. $42.3 billion imported, $15.8 billion exported). Brazil’s increased consumption of chemicals in recent years was largely supplied by imports. “In the last 12 months, we experienced an increase of 7.7% in the overall growth rates of the Brazilian chemical market, trends that are similar to those seen in China. However, at the same time, Brazilian chemical production shrunk by 2% and imports grew by 27.9%,” remarks Fabio Rios Haberland, CEO of Bandeirante Brazmo, one of the companies of Formitex Group’s chemical division and a leading distributor with the largest chemical product distribution structure in Latin America.

In previous years, the chemical industry has contributed 3% to the nation’s GDP, the third largest sectoral participation of industry GDP. “What is most apparent about Brazil is actually how much of a closed market Brazil really is. If you look at imports and exports as a percentage of GDP, in Brazil this represents just 10%; the world average is 25%. Our neighboring country, Argentina, is over 30%. On the positive side, those inside are very protected, and whatever happens in Europe will have a limited impact on the economy in general in Brazil. We are an island of self progress and we live off our internal demand,” remarks Fernando Figueiredo, CEO of ABIQUIM, the main chemical industry association in Brazil.

Net sales from the 2011 Brazilian chemical industry surmounted $158.5 billion (figure does not include sales from ethanol) (data provided by ABIQUIM and associations of specific segments). Not surprisingly, industrial chemicals represented just under half of the total sales ($76.2 million), followed by pharmaceuticals.
Please provide a brief overview of Petrobras’ current position in the petrochemical industry in Brazil?

Today we have three chemical poles in Camacari, Bahia, Capuava, São Paulo, Triunfo, Rio Grande do Sul and 10 refineries operating in Brazil, an asphalt and lubricant factory in Curari and also an oil shale production in Paraíba. We also have a full logistic function, which oversees shipments, transportation of crude oil and derivatives in Brazil and abroad. In addition to our refinery and logistics operations, Petrobras also has a commercial division for oil and derivatives commercialization, with offices in China, Singapore, London, Houston and Buenos Aires.

What strategic advantage has your partnership with Braskem brought to the company?

Today in Braskem’s advisory board we have four advisors and a very active commercialization, with offices in China, Singapore, London, Houston and Buenos Aires.

Please can you detail Petrobras’ current investments in the petrochemical sector and your plans to strengthen your foothold in this industry?

As outlined in our business plan for 2011 to 2015, we will invest $5.4 billion in the petrochemical sector to stimulate further growth in Brazil. Today, Petrobras is simultaneously building five refineries because our refinery capacity is around 1.85 million bbl/day and the market demand is now at 2.2 million bbl/day. If we look towards the future, in 2020 the demand will likely be 3.2 million to 3.3 million bbl/day and Petrobras’ refinery capacity will be around 3.1 million to 3.2 million bbl/day after the construction is complete. We have a project called Complexo Petroquinico do Rio de Janeiro (COMPERJ), which is a large project that will sit on 45 km2 of land. We have already completed 30% of the initial phase, which is the construction of a cracker that will produce 165,000 derivative bbl/day. We will also construct Brazil’s fourth petrochemical pole with a planned start date in 2014. Braskem will be very involved with COMPERJ and will build the cracker and the polyethylene, polypropylene and PVC factories.

How do you consider Brazil’s ability to position itself amongst the top five petrochemical industries worldwide?

Through Braskem, Petrobras will be the fourth or fifth largest petrochemical group in the world, which will help grow the Brazilian petrochemical industry. The petrochemical market is global, not regional, and you must be strong or you will disappear. It is Petrobras’ priority to invest in the petrochemical sector in Brazil and when we complete our integration plans for the refinery and petrochemicals we will add a lot of value to the market.

The first steps to overcoming these challenges are underway. Allocated, recent and planned investment includes major plans from BASF, Rhodia & Solvay, Coopar, Oxitec, Pan-American, Petrobras and its subsidiaries Petroquisa and Braskem. Figueiredo says: “while the tax issue is a predominant concern for companies who want to install in the country, Brazil has a framework of legal security, is experiencing positive growth rates and macroeconomic stability and a stable democracy which for many offset the obstacles faced by investors interested in expanding or entering into Brazil.”

More than ever before the chemical industry has a critical role to play in the future economic development of the nation.
As Brazil’s largest petrochemical company and celebrating your tenth anniversary in 2012, please can you detail your key aims as Executive Vice President for Basic Petrochemicals to foster another 10 years of growth?

In Brazil, Braskem has four crackers and three of them are naphtha based. The largest cracker is located in Camacari in the northeast of Brazil. It has 1.27 million metric tons per year of installed ethylene capacity. The second largest is located in the south of Brazil, in Triunfo, Rio Grande do Sul, which is also naphtha based and has 1.25 million metric tons per year of installed ethylene capacity. Currently, Braskem’s priority is to evaluate the options for de-bottlenecking these crackers. Braskem will need additional capacity to fulfill the immediate demand until the start up of the new cracker in Rio de Janeiro.

Braskem has a well-established presence in Brazil and Latin America with current expansion in Mexico. What further opportunities do you see for geographical diversification?

To reach our growth targets, Braskem intends to continue to expand its global footprint. Over the past 10 years, Braskem has increased capacity significantly and grown our presence in the Americas as well as in Europe with the acquisition of the Dow Chemical polypropylene business in September 2011. With this acquisition, we gained manufacturing facilities in Germany and became the number one polypropylene producer in the Americas. Today, Braskem is developing a new cracker, the Ethylene XXI project in Mexico. We are looking at other possible projects in the US and Perm.

Braskem recently announced the partnership with BASF to construct an acrylic acid plant. How important is this project to Braskem and what other projects form part of Braskem’s investment portfolio in Brazil?

In this project, BASF plans to invest about 750 million euros and Braskem will be the propylene supplier investing approximately $30 million in logistics. In addition to this, we are focused on our investments to de-bottleneck the current crackers and increase the capacity of polyethylene and polypropylene. Furthermore, we are studying the complex in Rio de Janeiro, which has two polyethylene plants and two lines with potential to be de-bottlenecked.

In Triunfo, our clients require ethylene for additional styrene production and Braskem is also looking for the opportunity in polyethylene and polypropylene. There is potential in Camacari to grow the entire complex and we are looking into acrylic acid, oxilalcohols, polyethylene, polypropylene and PVC. Braskem planned for two lines (until the end 2014) to introduce these de-bottleneckings which are currently being studied for economic feasibility. We are also building a 100,000 metric tons per year butadiene plant in the south near Triunfo to start production in July 2012, a $150 million investment. In 2012 we will also start up a new VCM and PVC plant in Alagoas with 200,000 metric tons per year installed capacity.

Although your main feedstock is naphtha, Braskem has made significant steps to becoming a global leader in sustainable chemicals. Please highlight some of Braskem’s key sustainable development initiatives?

Braskem’s green ethylene plant has recently completed one successful year of running, after opening in September 2010. We are now considering a new polypropylene from renewables using ethanol as a raw material. The idea is to evaluate other investments in Brazil for an integrated complex to produce from ethanol polyethylene and polypropylene in the southeast of Brazil to integrate with the sugarcane ethanol production.

Braskem, the petrochemical arm of Petrobras, is responsible for the operation of 35 industrial units in Brazil, including the two largest petrochemical complexes in the country, Camacari (Bahia) and Triunfo (Rio Grande do Sul), and their first greenfield project, the polypropylene plant in the city of Paulinia (Sao Paulo state) as well as operations in the US and Germany. As part of Braskem’s globalization strategy, the company is constructing the Ethylene XXI project in Mexico, planned to begin production in 2015, which is a joint venture between Braskem (65%) and IDESA (35%). These activities have given Braskem a diversified portfolio of petrochemical products with a focus on PE, PP and PVC. Current predictions say that Braskem, which is controlled by Odebrecht with Petrobras as its main partner, and is effectively the only supplier of domestic resins, will need to supply almost 100% of its production in Brazil to the growing local market. Demand for polymers is forecast to increase (polypropylene and polyethylene are expected to grow by 12% to 13% annually) and Petrobras’ new COMPERJ refinery and petrochemicals project in Itaborai will help fill much of this gap. Investment into this plant, which is expected to come online in 2013 and process 165,000 bbl/day of heavy crude oil to make olefins and downstream products, equates to $8.4 billion. Other investments include Petrobras’ Premium I Refinery to be built in Maranhao and Premium II Refinery in Ceara, each with a processing capacity of 300,000 bbl/day of oil. The Premium I Refinery is expected to be commissioned in 2017.

At the beginning of the 1990s, the concept of privatization was introduced to the Brazilian petrochemical industry and the Odebrecht Group became a player in the subsequent consolidation. Odebrecht is the second largest Brazilian multinational, specializing in the field of engineering, construction, chemicals and petrochemicals. Founded in 1944, Odebrecht has been instrumental in the development of two major projects for Braskem: the green ethylene plant in Triunfo and the polypropylene plant in Paulinia, the company’s first greenfield project.
As a pioneer in the Brazilian chemical industry, Henri A. Slezynger, president and CEO of UNIGEL, the second largest petrochemical company in Brazil, and president of ABIQ/UM, comments on the historical evolution of the petrochemical industry: “historically the model for the Brazilian petrochemical industry was the so-called ‘three party model’; government-owned Petrobras/Petroquisa would combine with a foreign technological licensor and a Brazilian group that often did not have specific experience in the industry but wanted to invest as the third party. This was a very successful model and the Brazilian industry was protected by extremely high tariffs. This enabled companies to diversify portfolio of products including fertilizers and packaging materials and annual turnover of approximately $2 billion.

Amongst the largest chemical groups in the country is Oxiteno. Oxiteno is the Chemical subsidiary of the global Gluteral formaldehyde production capacity company. It has the presence of the state. Up until 2000 we didn’t have the rules of the law to be applied to the market. The incentives we have in Brazil are a stable economy and high costs of business in Brazil. Therefore, in the market we can use part of our raw material as natural gas, but we do not have a cost incentive for this in Brazil like we do in any other country worldwide.”

Brazil’s high cost of natural gas as an industrial raw material reduces the sector’s competitiveness. Silva continues: “we have legislation in Brazil but we lack implementation; we have the law, but we do not have the rules of the law to be applied to the market. The incentives we have in Brazil are a stable economy and the growth in local demand.”

Brazilian chemical company CPC Quimica, created by the merger of methanol producer Proxim and resin supplier Synteko, currently has two joint ventures to produce methanol (one with Petrobras in Camacari), and has recently developed a new business recovering carbon black from tires.

Wanderlei Passarella, CPC’s President Director, also comments on the cost of raw materials and the resultant need to diversify into other segments such as renewable energy from biomass: “we are not able to supply the growth of demand because of restrictions on raw materials and therefore we are not able to expand production due to the price of natural gas. This year we will reach 1 million tons of internal demand for methanol and we will only supply 200,000 tons, meaning 800,000 tons needs to be imported. If we were to grow as the market demand we would need big changes. The National Pact for the Chemical Industry is the blueprint for growth and if we do not negotiate this with government we will not see any growth in this industry. The profitability after taxes makes little incentives for investment with almost 50% allocated to taxes. This means GPC will continue to grow as a company, but we have to grow in areas where we do not have the presence of the state. Until now, our core business has been in methanol, but now we are forced to diversify to reach our goal of becoming a BRL1 billion company. Methanol is a mature industry, but resins is a big growth market, growing at 10% per year and we will take advantage of this opportunity.”

Henri A. Slezynger, President and CEO, Unigel

As a pioneer in the Brazilian chemical industry, Henri A. Slezynger, president and CEO of UNIGEL, the second largest petrochemical company in Brazil, and president of ABIQ/UM, comments on the possibility for further negotiations on the cost of raw materials and the resultant need to diversify into other segments such as renewable energy from biomass: “we are not able to supply the growth of demand because of restrictions on raw materials and therefore we are not able to expand production due to the price of natural gas. This year we will reach 1 million tons of internal demand for methanol and we will only supply 200,000 tons, meaning 800,000 tons needs to be imported. If we were to grow as the market demand we would need big changes. The National Pact for the Chemical Industry is the blueprint for growth and if we do not negotiate this with government we will not see any growth in this industry. The profitability after taxes makes little incentives for investment with almost 50% allocated to taxes. This means GPC will continue to grow as a company, but we have to grow in areas where we do not have the presence of the state. Until now, our core business has been in methanol, but now we are forced to diversify to reach our goal of becoming a BRL1 billion company. Methanol is a mature industry, but resins is a big growth market, growing at 10% per year and we will take advantage of this opportunity.”
Henri A. Slezynger, president of Unigel, reiterates the need to improve the nation’s competitiveness: “all Brazilian industries suffer from a very strong currency, which reduces our competitiveness. In the chemical industry, we struggle with extremely high costs of raw materials and we have been discussing with Petrobras and Braskem alternatives to maintain the competitiveness of the production chain. In Brazil, Petrobras is responsible for the exploration of gas but they have not yet taken the step of detaching the price of gas from its equivalent in oil. The price of gas is $12 to $15 per million British thermal unit (btu) which makes it impossible to use as raw material. Therefore the chemical association is on a crusade to decrease the price of gas and we are trying to make the government understand that Brazil cannot compete against an industry that sells gas for $3.5 to $4 per million btu if we charge $12 to $15 per million btu... Brazil is not pricing its naphtha as a producer, it is not giving any thought to the fact that Brazil is now producing as much oil as it consumes and with the new discoveries, Brazil is on the way to becoming the fourth largest producer of oil. Brazil needs to give serious thought to more accessible prices to increase the competitiveness of the petrochemical industry.”

Bann Quimica, founded in 1954, evolved from a trader to a producer of chemicals for the rubber industry. Over time, due to exchange rates and competition from countries such as China, the business refocused. Dwight K. Bann from Bann Quimica Ltda comments: “as part of our strategy, Bann Quimica built the Paulinia site to make the raw materials for the rubber chemical plant. In essence, Goodyear gave us the boost to improve the competitiveness of the production chain. In Brazil, Petrobras is responsible for the expansion of such leading multinationals as Reichhold in Brazil exhibits confidence in the industry’s continued rise in the ranks of global economies.”

Although Brazilian-owned companies continue to dominate the market, Reichhold has set an example of an American manufacturer of synthetic resins with a history in Brazil. Founded as Resana Company in 1948, by 1998 the company was completely acquired by Reichhold, establishing their foothold in South America. Throughout its history in the country, Reichhold has expanded its capacity significantly to become a supplier in the production of composites and coatings in Brazil.

Brazil is one of the five largest global markets for paints and the leading global suppliers of raw materials for paints and supplies are present in Brazil, along with many national companies. Brazil’s national paint manufacturers’ association, ABRAFATI reports a 60% growth in the paint industry in the past decade and predicts growth in the current decade to be even stronger.

Where domestic companies are a symbol of Brazilian growth and development, the expansion of such leading multinationals as Reichhold in Brazil exhibits confidence in the industry’s continued rise in the ranks of global economies. “As an example of that,” says Jose Luiz Calvo, vice-president & general manager of Reichhold Brazil, “we just launched a new reactor for the production of powder coatings resins and increased our production capacity for these resins more than 30%.”

Environmental regulations are increasingly important in such a fast developing market, and Reichhold is taking these regulations seriously. “We are introducing new environmentally-friendly products that help our customers to develop their green products. Our Beckosol AQ® product line for the coatings industry allows customers to formulate their paints with almost zero volatile organic compounds and our Environil® product line is bringing new unsaturated polyester produced with recycled and renewable raw materials for the composites industry.”

Looking to invest in Brazil? Need a local partner?

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AGROCHEMICALS

The Brazilian agrochemical business has shown impressive performance over the past years in both fertilizer chemicals and crop protection.

With the Brazilian population estimated at over 200 million inhabitants and high demand for food worldwide, there is an increasing need for agrochemicals to meet escalating demands locally and internationally. 2010 data revealed Brazil’s crop share amounting to $7.3 billion, with 44% from soybeans, 11% from cotton, 10% from sugar cane, 9% corn, 4% coffee, 3% citrus and 19% other (Sindicato 2011). Brazil is now one of the world’s largest agriculture producers with the highest rate of expansion. Similarly, Brazilian agribusiness exports reached new records of $87 billion in 2011, 24.4% higher than in 2010, partly due to the rise in average export price.

Soy complex was the principal export sector with $22.95 billion, an increase of 38.9% in the year, followed by sugar/ethanol complex with sales of $14.99, an increase of 18.9%. Meat remained in third position totaling $14.35 billion, up by 14.8%.

The availability of natural resources in Brazil is the country’s primary competitive advantage. Brazil is one of the few countries with available land for cultivation, a large supply of water and a favorable climate across the country. On the other hand, these favorable conditions lend themselves to the prevalence of insects, diseases and weeds. “Snow is the best and cheapest herbicide, insecticide, pesticide and fungicide, yet the boon to being a tropical country is we can produce sugar cane. We run two crops every year for soybeans, wheat and corn and in an irrigated area we can run five seasons of beans every two years. This means we grow between two to three crops per year and produce more for the same space of land. However, when comparing productivity to a country such as Canada and US we are much lower for wheat and rapeseed,” comments Eduar do Daher, executive director of ANDEF (Brazil’s National Association of Crop Protection).

In Brazil, the agricultural chemicals sector is led by 15 affiliates of ANDEF, including Arysta LifeScience, BASF, Bayer CropScience, Chemtura, Dow AgroSciences, DuPont, FMC Brazil, Israelis, Syngenta, Monsanto, Brazilian Herein, Synergente, Ihsa Brasil, Sumitomo Chemical and Syngenta, the world’s largest agrochemical producer.

In the crop protection market in Brazil, Syngenta, Bayer and BASF dominate, together holding a 60% market share, followed by FMC, Dupont, and Monsanto. Increased food production and major growth in the local market are key drivers for FMC. FMC Corporation is one of the world’s foremost diversified chemical companies with leading positions in agriculture and is the number one sugar cane and cotton energy producer in Brazil. According to Antonio Carlos Zem, Latin America’s general manager for FMC: “FMC reached this position because in 1996 all our peers found it fashionable to be growing soybean, corn, fruits and vegetable and we were the first company to take a serious approach to bio-energy. At that time, cotton prices were erratic and risky, no one expected bio energy to be booming. Brazil is adding almost 2.2 million acres every year of new cropping area, showing a large growth in the size of the industry. In parallel, there is also growth related to technology in the industry and we are seeing Brazilian growers become more professional and larger in their operations. The overall agriculture business is growing around 15% per year and we expect this growth to continue until at least 2020. There are some expectations that global food demand from now until 2020 will grow 40% and from this growth Brazil will be supplying 20%, so half of all growth will be seen in Brazil. In line with these developments, Brazil is becoming a more important part of our global business and we expect that by 2014, we will have a $1 billion dollar operation here.”

Pesticide production is predicted to grow at 4.1% annually and Brazil is the top market globally. Brazil’s pesticide market is estimated to grow from $7.3 billion to over $11.77 billion in 2020 (based on export projections of soybean, corn, sugar cane, coffee and cotton). However, Brazil has a huge gap in pesticide production. Comparing worldwide pesticide use to production ratios, Japan uses ten times more, followed by France, Argentina and US. Increased use of pesticides, resulting in better productivity, coupled with conversion of unused land for agricultural, will enable Brazil to meet its demand uprising.

Julio Borges Garcia, president of Ibra Chemical Industry Co. has capitalized on these trends: “Ibra is very confident with the agriculture industry in Brazil and in fact the market has hit our forecast for this year of $8.3 billion in revenue. In the next five years, we believe we will reach revenue of $10 billion and demand will continue to be strong despite the situation in the US and Europe. Farms in Brazil need the support of agrochemicals in order to: (i) fight diseases; (ii) control fungus activities, which are very active here; (iii) reduce the impact of pests in...
productivity; and, (iv) help to protect crops with other problems that are typical to tropical countries. In the last 10 years, we have increased our sales on an average of 25% annual growth rate.”

Ihara draws on the technical expertise of its Japanese shareholders, Nippon Soda, Kumiai Chemical, and Sumitomo Corporation. Regulatory uncertainty, as it pertains to crop protection and its impacts on the distribution business, directly influences producers. However, while complex, it can be overcome, as Thomas Britze, managing director of Helm do Brazil, explains: “businesses need to register and receive approval of crop protection products with several institutions in Brazil including Anvisa, the Ministry of Agriculture and Ibama, the Ministry of Environment. In addition there is state legislation, which in Brazil varies considerably. In the south of Brazil you have more of a cooperative system, while in other parts of the country you have more private distributors or direct sales to farmers. Mato Grosso is the most important agriculture region in Brazil with huge farms and the industry is selling directly to these farmers. Therefore, you need a tailor-made approach in each region. The business model and the market access are different as well as your portfolio of offerings needs to be tailored to the various regions.”

Helm do Brazil is part of the larger HELM AG German, a family-owned company with over 110 years of experience as one of the world’s major independent chemicals marketing enterprises. “Brazil is going to be the most important market, surpassing the US this year for the first time. The market is enormous, with very good potential, but it also includes some risks. Climate and financial risks, commodity prices and volatilities all have to be considered. There are many factors that make our life interesting. For Helm, I am optimistic that we can contribute more to the growth of Brazil, helping our customer to get products and solutions with cost-benefit to improve their productivity and profits.”

Dr. Alfred Hackenberger, president of BASF South America, comments on the importance of the agro-business to the Brazilian operations: “in Brazil we have three pillars, 30% agro business, which is very important in Latin America and much higher than BASF global trends, 20% decorative paint, and the core business in BASF worldwide is in plastics which represents 50% of the business in Brazil.”

In addition, while Dr. Hackenberger laments the lack of an R&D tradition in Brazil, the agrochemical sector proves an exception: “in my opinion, Brazil is the strongest country worldwide when it comes to R&D for the agro sector. BASF is very strong on that front in Brazil; the first transgenic soybean developed out of the US was from BASF in partnership with a local company.”

INNOVATION AND SUSTAINABILITY

Investment in research and development (R&D) is fundamental to increasing the competitiveness of the Brazilian chemical industry.

Previous reports have indicated that companies in Europe, Japan and the US invest 5% of annual revenue into R&D initiatives, while Brazilian companies spend on average 1%. Yet Eduardo Estrada, president of DSM Latin America, a global science-based company, and vice-president human nutrition and health, talks of a shift in focus for DSM and the culture on innovation: “we invest more than 5% of our sales in research and development and 10% of our people globally work in innovation. DSM’s target is to increase innovation sales from 12% towards 20% of total sales by 2015. DSM surpassed its innovation targets in 2010 and we aim to repeat this in the next five years. In Brazil we are building a solid platform to replicate DSM’s business model throughout Latin America… and the sale of DSM Elastomers (we had a plant in the south of Brazil) completes our Vision 2010 strategy to become a focused life sciences and materials sciences company. DSM has now entered a new era of focused growth and this allows us to be a larger player in technologies of the future… we closely follow global shifts, climate and energy and health and wellness, and these global shifts shape our strategy. Our strategy leads in four different areas: the high growth economies (50% of our sales by 2015), innovation (including open innovation and collaboration with other companies, including biotechnology), sustainability, and acquisitions and partnerships.”

Lancera completed the acquisition of the DSM Elastomers in 2011.

Croda’s managing director, Marco A. de M. Carmini, also stresses the importance of R&D to the local operations: “we spend about 2.5% to 3% of our local turnover in R&D. Among our key initiatives is to increase our presence in the industrial specialty markets and animal care. Croda hosts in Brazil an Animal Care Excellence Center. We see in this area a lot of collaboration in the future with Asia. This is becoming less important in the US or Europe, but Brazil has potential in processed meat and raw meat production with Argentina and also with China. Secondly, we also see a lot of opportunity in biodiversity. The Brazilian biodiversity act is the first one in the world, although this act has many flaws that need to be corrected, Brazil’s biodiversity is a strong source of innovation for companies. We have six to seven biomes and so far we have only invested in the rainforest biome, but there are some others that can provide a unique innovation solution for the chemical industry.”
Credo is a global leader in specialty chemicals, in personal care, health care, crop care, coatings and polymers. Credo employs a range of advanced and novel chemical processes to convert natural based raw materials into fatty acids and glycerol, and then further refine and process them into a range of products, which has led the company to be the world’s number one producer of lanolin.

Innovation and technological development play a very important role in our company’s management. As a global leader in specialty chemicals, we have the technical expertise necessary for developing the chemo-technology solutions in measurement, control, and information, which was selected by the Brazilian government in a competitive value chain selection as one of a few firms to develop digital technology in Brazil at that time. Nelson Ninin, Chairman & CEO, Yokogawa SA, reflects on the history of Yokogawa’s innovation platform in the Brazilian market: “In 1973, Yokogawa opened its first affiliate located outside Japan in Brazil. The military government at the time strategically placed the petrochemical industry in São Paulo, Bahia and South of Brazil as main priorities for development, which helped to launch new products from Japan quickly into the Brazilian market... When the market re-opened in 1992, Yokogawa bought a Brazilian company to take care of our operation here and put together our business for field instruments, testing and measuring instruments to offer as a solution a package for our customers in Brazil. Our plan is to continue with the last 10 years’ average annual growth of 15%; in 2010 we were 38% up on new contract business and we foresee that 2011 to 2015 will show a larger increase in new contract business because there are some large projects on the horizon. The new projects we see upcoming for Yokogawa South America will be in pulp and paper, mining, eth- rochemical and chemical, mining, eth- nol, but the majority will come from oil and gas.”

**BRASKEM PAVES THE WAY**

While a long path of investment and challenges confronts the development of the industry, local businesses such as Braskem, Oxiteno and Unipar are stepping up to the mark. September 2010 marked an important milestone for Braskem, as they inaugurated their new ethylene plant in São Paulo’s petrochemi- cal complex in Rio Grande do Sul. For Brazil, this meant a huge leap forward to- wards achieving their position as a leader in green chemicals.

The new plant is the first commer- cial scale green ethylene project to use 100% renewable raw materials (the plant uses ethanol produced from sugarcane as feedstock). The plant has an annual capacity of 200,000 tons and consumers have shown they will pay more; some agreed to pay a premium as high as 66% for bioethylene (PE) made from renew- able sources.

The global demand for green PE is growing and will continue as pressure mounts on chemical companies to position themselves as “sustainable”. Braskem is also planning to build another ethylene plant, this time fully integrated, to tap into this huge demand. The first plant, non-integrated, enabled the rapid launch of its products in the in- dustry far ahead of its peers. The project was conceived and installed in less than two years based on Braskem’s propri- etary technology. In partnership with a local Brazilian company, Braskem will also produce 1.4 million liters of naphtha annually from post-con- sumer recycled plastic at its Camacari complex in Bahia.

**ACCESS TO RENEWABLE MATERIALS**

Brazilian ethanol has inevitably been a major ingredient in some new biopolymer- based manufacturing processes. America as well as a leader in specialty oleochemical production plant. This was engineered several innovations, including the Oxiteno’s innovation platform: “Oxiteno has achieved 20% of raw materials from re- newable sources and 35% of its materials contains renewable inorganics.”

Oxiteno has research, development and technology centers in three countries, Brazil, Mexico, and Venezuela, and invests approximately 1.5% of its annual billings in R&D. “Oxiteno has also pio- neered several innovations, including the oleochemical production plant. This was a first and significant milestone in Brazil and Latin America... Another important sector in Brazil is of course the agro- chemical industry and Oxiteno has spe- cialized formulated agricultural pesticides that provide greater stability and higher performance. The end result is greater productivity and safety for the farmer,” says Parolin.

Other investments include the alkoxy- lation units based on the most recent Interview with Rui Chammas, Polymers Division - Executive Vice President, Braskem

Key to furthering growth in the petrochemical industry is localization of the supply chain. How is Braskem’s contribut- ing to this expansion?

“Besides being the sole producer of polyethylene and propy- lene in Brazil. We are not the only company selling, but we are the only company truly committed to the market. We have a bigger commitment to developing the plastic value chain in the country. We need to assist our customers to develop and grow their business because this is the only way we will be able to grow in our business. It is clear that Braskem has a bigger responsibility to develop the local market and this is part of our mission. We also need to help our customers in the rest of Latin America to occupy their position in their market.”

There is an increased emphasis globally on sustainability within the chemical industry. What steps has Braskem taken in the polymer business to follow this global drive?

“Our vision is to be a leader in all sustainable way. In addition, Braskem is developing a complete range of bio-based materials that are perceived by the market as more sustainable. At the end of 2010 we started the green polyethylene plant, which positioned Braskem as the leader in biopolymers globally and we are also bringing to the market an additive for gasoline that is produced in Brazil.”

How would you describe the investment environment in Brazil?

“In terms of raw material, we will have a lot of material from other countries. We have the pre-sale developed with economic growth and we are experiencing a rise in internal market demand. The question is how to build the basic infrastructure needed for this potential growth. The focus is now on what should be done to bridge these gaps; including transforming into reality the potential we have in the country through tax incentives, raw material availability and cost, innovation incentives, and capital expenditure incentives. This, together with improvements in energy costs and infrastruc- ture, will lead to a promotion in investment. However, as we now stand, there is a lot of room for improvement. Braskem faces the same challenges, but we are committed to lead the market growth in the next years. How do you expect the polymers business to evolve over the next five years?

“We believe Brazil will continue to grow and we foresee future market growth in South America. In five years, our plastic indus- try will bematuring. Braskem will be doing our best to serve the market with materials and services. Innovation will be key and in the bigger sense we will continue to look for new competitive base raw mate- rial and with our investment in R&D Braskem will leverage this to position ourselves favorably in the global sustainable arena. We understand there is a demand from the market for renewable materials and Braskem is prepared to deliver these products. How can we be doing our best to serve the market with materials and services. Innovation will be key and in the bigger sense we will continue to look for new competitive base raw mate- rial and with our investment in R&D Braskem will leverage this to position ourselves favorably in the global sustainable arena. We understand there is a demand from the market for renewable materials and Braskem is prepared to deliver these products.”

**Eastman welcomes Scandfell to the investment growth**

The world’s leader in non-phthalate plastics now has local manufacturing capability in South America with the acquisition of São Paulo-based Scandfell.

Plastics production in Brazil—Latin America’s largest market—means that Eastman now has nine plasticizer manufacturing locations on four continents, strategically positioned to provide timely supply to customers.

Eastman is committed to the global plastics industry with an 80-year history of providing:

• A reputation for excellence - Superior products • Reliability of supply • Excellent customer service

Contact an Eastman representative today to find out more 800-EASTMAN or visit EastmanPlastics.com

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technologies for producing high-purity surfactants intended for applications such as cosmetics, detergents, pharmaceuticals, and food and the green solvents obtained from sugarcane, which has valuable attributes in the formulations of shampoos, soaps, creams, and lotions. Whilst national companies spearhead R&D investment, many well-established multinationals have made large investments into Brazil, establishing centers of excellence in the market. French chemical giant Rhodia, recently acquired by Solvay, has a long-standing reputation for commitment to sustainability. In 2011, US-based Cobalt Technologies, a developer of next-generation bio-based chemicals, and Rhodia announced a Memorandum of Understanding for a strategic alliance to develop bio-n-butanol refineries throughout Latin America. Marcos A. De Marchi, president of Rhodia Latin America and head of fibres for Rhodia globally, has taken advantage of Brazil’s raw materials: “in Brazil we have access to another kind of raw material that the rest of the world does not have. We have recently launched a solvent based on glycerine, which is a by-product of biodiesel production. It is very difficult to be sustainable in the chemical world. It is easier and less expensive to do things as they were done in the past. However, this has to change and Rhodia sees this as a responsibility; to be sustainable and to be more proactive both at a global and local level. The second point is a source of business opportunity. If you transform your business into a sustainable business before your competitors, you are better positioned for the future. Sustainability is an obligation and an opportunity. In order to translate this vision into something more concrete, the Rhodia Way program was introduced with great results: Rhodia has been awarded the Dow Jones sustainability index for the third consecutive year.”

GE is also making a significant commitment to furthering the development of the industry through the establishment of a new R&D centre in Rio de Janeiro. Currently GE has laboratory capabilities throughout the country and facilities in Brazil that allow the company to tailor products developed in the headquarters to local market needs. An R&D facility planned to be fully operational by early 2013 has seen investment of around $200 million from the company. This innovation center will be GE’s fifth research facility worldwide and will initially focus on solving the oil and gas, biofuel and health care sectors. Tadeu Justi, regional executive for GE Latin America says the investment is “not just a commitment to the Brazilian market but a clear indication about GE bringing more capabilities to fully develop technologies in Brazil for Brazil, pure R&D focused.” The Brazilian research center will house as many as 300 engineers, making it the company’s second-largest R&D facility outside the US, according to a company statement.

COLLABORATION
The chemical industry requires support for technological development and innovation. In many instances a pilot-plant to test processes and products requires support from public governing bodies to reduce investors’ risk and foster innovation. In 2011 the Brazilian Development Bank (BNDES) disbursed BRL4.3 billion to industry, with BRL1.1 billion to the chemical and petrochemical sectors. Together with the Research and Projects Financing Fund (FINEP), BNDES will support industrial technological innovation in the sugar-based energy and chemical sectors, allocating BRL1 billion for the 2011 to 2014 period. Its purpose is to stimulate projects that aim to develop, produce and commercialize new industrial technologies designed for processing sugarcane biomass.

In many cases, companies are supported by public policies, both from federal and state governments. The “Lei do Bem” (”Innovation Act”), the “Lei do Bem” (”The Goodness Act”), mechanisms for economic subsidies, financing programs from institutions such as FINDEP and BNDES, as well as the instruments and resources utilized by Fundações de Amparo à Pesquisa dos Estados (State Research Foundations), all represent important sources of financial support to research and development of innovative technological solutions. Paulo Schirch, Solvay’s general manager for Brazil and Argentina R&D, says: “It has been publishing and increasing research in a significant
way. Brazil has surpassed European countries in the amount of technical publications in the past years. In certain areas, for example R&D in the agricultural and forestry industry, we are very strong. It is a matter of how we allocate resources and how the government and institutions see themselves in terms of return and competitiveness. The support we have received from the government, for example, the BNDES, and through agencies such as FINEP, has been key to supporting not only the chemical industry, but also the clients of the chemical industry. Solvay is committed to being one of the leading companies in the sustainable industry and Brazil is a strategic platform for us to achieve this; the country can provide us the resources to do so.”

Brazilian company Petroquimica Mogi das Cruzes (Petrom), controlled by Petromagrosa, industrial director at Petrom, explains: “it is the vision of our shareholders to follow the highest environmental standards and to continue to expand and increase capacity with a strong focus on developing more sustainable products for the industry. Seven years ago Petrom began research and development for renewable plasticizers. Since the end of 2008 we contracted Desantis and we opened an onsite laboratory to understand the behavior of these plasticizers in the final products. This unaveled in 2008 during the financial crisis, but according to our shareholders it was strategic to have a pilot plant, even at that time. In 2009 Petrom patented the renewable plasticizer BILGS. Petrom began industrial production in 2010 and we are rapidly introducing these plasticizers globally and have already received approval in the US. This plasticizer is specifically designed for sensitive products, including medical devices, food and children’s dolls. We are in the process to attain FDA approval and we should be approved by the end of 2011.”

Extensive research to find alternative plasticizers for adhesives and sealant formulations are driven by global demand for alternative plasticizers with greater sustainability through reduced toxicity and the elimination of the use of environmentally harmful raw materials. Sobrosa adds: “now many multinationals have acquired a license to use this plasticizer. Earlier this year Solvay, one of our principle users of this product, asked for samples of the product to be tested and presented in a seminar. They compared several properties and concluded that our plasticizer was one of the best in the world. We have achieved the creation of a renewable based plasticizer with a competitive cost. This is a revolution in the industry.”

The professional training profile in Brazil is presently inadequate for an innovation-oriented culture and the country needs to take concrete steps to improve co-operation between universities and industry. As a relatively new entrant in Brazil, DSM’s president of Latin America, Estrada, highlights the importance of utilizing local talent and industries: “there is no way to grow without investing in Brazil and local content is a unique driving factor for any company’s success. The Brazilian government’s ambitions to increase local content across the industries are even more apparent since the recent oil discoveries. Acquisitions and partnerships are very relevant for high growth economies, particularly in Brazil. For example, currently, we are collaborating with oil exploration companies with our Dynenea® technology, the world’s strongest fiber, to enhance performance of their deep sea platforms by replacing heavy steel cables for deep-ocean drilling. In Brazil, DSM will also be involved in biomass conversion. For instance, currently, we are collaborating with oil exploration companies with our Dynenea® technology, the world’s strongest fiber, to enhance performance of their deep sea platforms by replacing heavy steel cables for deep-ocean drilling. In Brazil, DSM will also be involved in biomass conversion. Brazil is best positioned on this front and DSM has unique enzymes and yeast technologies to help us become the preferred partner for second generation fuels, biogas and biomaterials. The lifecycle impact of these industries is very favorable. So it is important for Brazil that the government has key initiatives through their National Development Bank (BNDES) PAISS programme that aims to invest up to BRL1 billion to accelerate new technology adoptions in biomass conversion. Only few selected players will become part of this front and DSM is in the running.”

He continues: “Brazil plays an enormous role in renewable sources of materials…with innovation platforms created by industry together with established regulations around intellectual property and the right financial incentives we can accelerate biosolutions for the chemical industry. To be able to accompany the growth and local trends you must be locally present with local talents.”

Investment from leading players and governmental backing, along with the development of locally owned Brazilian technology and an abundance of raw material, position Brazil to lead the global drive in green chemistry. “We are forecasting to become the fifth largest chemical industry worldwide. We have a huge raw material base and we will find a way to tap into this to become competitive…Brazil also has a leadership role in the green chemical and renewable industry. Brazil has a way of rising to the occasions,” remarks Henri A. Slezynger, president and CEO of Unigel.

REGULATIONS

For the chemical industry to fulfill its innovation investments, changes in the regulatory regime, improvements in the analysis processes and efficiency in the release of credit have all been flagged as concerns. For ASK Chemicals, Renato Addison Carvalho, managing director for South America, further regulation and the drive for sustainability are an important growth area for business: “a major differentiators is our environmentally friendly products. The more restrictions the government and companies implement the better it is for our business. For instance, our products have zero form-aldehyde, which is much safer for the employees. Companies now see value in this and we are the only company in the market to produce this product.”

ASK Chemicals is the result of a joint venture designed to create a larger company with one focus; the foundry market. Carvalho adds: “combining the three businesses we have a truly global presence, a very complete product line and the strength of a combination of all the technologies from Ashland, Sud Chemie and ASK Chemicals.” For ASK Chemi- cals and others supplying to the automotive industry, Brazil represents some of the greatest growth opportunities. “Currently, 58% of the foundry business is related to the automotive industry and, as you know, the automotive industry is growing very fast and will continue to grow. If you compare the number of habitats in Brazil to the number of cars, it is still very high. We are six inhabitants to one car as compared to Mexico which is four to one and below two to one in developed countries,” says Carvalho.
ENGINEERING – A SHORTAGE OF SKILLS

Brazil is home to many well-established companies in the engineering services sector, which provide the integration and management of projects in Brazil’s chemical sector and related segments.

Engineering companies, both national and international, have brought their state of the art technology, innovation and intellectual capacity to Brazil to help drive the growth in current and new chemical plants that have resulted from the country’s economic boom over the last decade. Engineering in many related fields such as oil and gas, pulp and paper, and infrastructure have also fuelled the growth that Brazil’s chemical industry is seeing today.

When it comes to the chemical industry, the quality, safety and compliance of companies in this field are vital. From pesticides, petrochemicals, paints, and industrial gases, chemicals and the products made from them are everywhere and in order to bring them safely to the end user measures must be taken at several steps along the way. The chemical industry is a highly complex business, which requires intricate equipment, dangerous logistics, and highly skilled labor to ensure the finished products are produced without any disruption or security concerns.

This is why as chemical use in consumer products and industry continues to grow, companies like SGS, headquartered in Switzerland, play an important role in inspection, certification and testing to help control chemical use and transportation across many sectors.

SGS began its operations in Brazil 70 years ago in the grain and international commodity-trading arena, but today is quite diversified, with the largest portion of its businesses related to the chemical industry. SGS offers lab analysis and commissioning services to companies in the field as well as certification for transporters of chemicals under the Responsible Care program, as outlined by the ABIQUIM association.

A common theme for any company operating in this highly technical arena is the need for more skilled entrants to the labor market; companies in Brazil’s engineering fields are especially feeling the pressure. Despite the great growth potential that Brazil’s rising lower class is bringing to the nation’s economy, the lag in rising education levels is felt by companies such as SGS. Marcelo Garcia Stenzel, executive vice president for SGS Brazil explains: “the main challenge now is in finding qualified labor in all areas of our business, so we are making a large investment in the training of our personnel. We are running training programs, apprenticeships and sending professionals to the US to train at our laboratories in bigger facilities.”

According to a study carried out by the Institute of Industrial Development Studies (IEDI), Brazil is facing a lack of qualified engineers and is not producing either the quantity or quality of engineers required to compete in the world’s hi-tech markets. The IEDI report states insufficient education as a source of the problem, in addition to the cost of engineering programs at the university level, which are restrictive for students. This deficiency in the local market has led most large Brazilian firms to create their own internal training programs.

Edson Bouer, president of Associação Brasileira de Engenharia Química (ABEQ) and vice president of the engineering firm Engevix, describes the situation facing his company: “a growing challenge for Engevix has been a skill shortage of highly qualified labor. What Engevix has done is to take experienced employees with 20 to 30 years of work to coach new hires from universities in Brazil and provide training on-site. We
are aiming to make these recruits productive in a short amount of time so we have accelerated the training process by showing them life in the plants, and providing them with a realistic preview of work in the EPC industry."

Engevix is a company that is distinguished in the implementation of engineering, procurement and construction projects and which has maintained its focus on the engineering side rather than shifting its focus to construction, despite similar moves by competitors. In terms of global operations, Brazil represents more than 95% of Engiveix’s business; the company also has operations in Angola, Columbia, Ecuador, Peru and Central America. Bouer is adamant about the company’s continued focus on Brazil: “even with the onset of the global economic crisis, Brazil provides attractive opportunities in the chemical and infrastructure sectors. These industries are profitable and Brazil is developing a solid investment base, with many exciting projects in the pipeline to make the country’s chemical market an attractive investment opportunity.”

Brazilian engineering company Odebrecht has a revolutionary approach to human resource management: one that has been applauded by Harvard University. “Odebrecht has a long tradition of employee satisfaction. Those seeking employment with us plan to retire with us. Our management philosophy is very specific: we work with total autonomy, ‘a small contract is a small company’. The decentralization level is incredible. A Mexican director, for example, will behave and make decisions as the business owner and is rewarded based on results. Few companies in the world have this level of independence,” comments Odebrecht’s president of industrial engineering, Marcio Faria Da Silva.

Odebrecht was a key contributor to the success of Braskem’s Green Ethylene Plant in Triunfo- the first in the world to manufacture plastics from 100% renewable sources. “This project has a very important meaning, image and practicality for Brazil. This was the first commercial scale plant to produce green plastic from ethanol and from this, new projects will be executed worldwide. It was very important milestone for Odebrecht; we were able to complete the project on time and in budget. This first production was all sold to Toyota, who aspired to make the first green car at that time,” said Da Silva.

Today, Odebrecht operates on a truly global scale with important projects in Argentina, Mexico and a refinery being built in the US in partnership with Petrobras.

The São Paulo Industry Federation (Federação das Indústrias do Estado de São Paulo - FIESP) in December 2010 estimates investments in civil construction around $150 billion a year until 2022 to accompany industrial growth. This includes major investments in industrial facilities and energy plants, as well preparations for the World Cup and Olympic Games. “We need the support of major multinational companies in partnership with local players and this is part of Odebrecht’s strategy,” concludes Marcio Da Silva.
INDUSTRIAL GASES

Gas products are not only essential to the chemical industry as a whole, but also play a vital role in our everyday lives. They are critical to the creation of vehicles, buildings, technologies, food and beverages, and pharmaceuticals, to name but a few applications.

It is therefore no surprise that Brazil’s chemical sector is home to several major players in the industrial and specialty gas segment, with four major multinational companies (Air Liquide, Air Products, Linde, and Praxair’s Brazilian subsidiary White Martins) and only one local player (IBG).

The German based company Linde Gases, provides extensive application know-how, expert services and state-of-the-art equipment to help chemical companies improve their operations.

Clemis S. Miki, director and president for South America, Linde

Clemis S. Miki, director and president for South America discusses the company’s focus in the local market: “here in Brazil, Linde is focused mainly on our gas business and we also provide engineering services to petrochemical companies. We have a strong reputation and are well positioned in the South American market. We are finding specific opportunities for investment and growth here, and we believe in the future of the whole region.” Linde has been in the region for close to 100 years and has become the market leader in hydrogen applications.

Linde Gases provides extensive application know-how, expert services and state-of-the-art equipment to help chemical companies improve their operations. Magnus Karlson, Linde Gases’ business manager, explains how gases can be used in a number of sectors to help improve productivity, lower costs and environmental impact for their customers: “the molecules that our competitors are selling are not different to ours so we focus on gas applications. A bulk portion of our business is now in the application of air gases, but also gases such as hydrogen and CO2 that can be applied in many different ways. For instance, you can use oxygen for furnaces in a steel plant as well as medical gas in hospitals or water treatment for our chemical customers. Gases are also used to recover products that would normally go straight into the atmosphere or gas can be used for the treatment of water.”

Pedro Manuel Riveros, managing director of Air Products, outlines some of the key constraints faced by industrial gas companies: “electrical power is a significant part of the cost for production of gases in Brazil, which account for more than 50% of the cost structure. Brazil has the third most expensive power costs in the world and with the power potential that Brazil has, this is the topic of constant discussion in the industry. In addition to high costs, distribution is also a challenge and fairly expensive from a productivity standpoint. There is an opportunity to increase productivity by improving our roads, because where the most industry is located high level of congestion is regularly encountered.”

Founded in 1940, Air Products provides large and small volumes of nitrogen, oxygen, and hydrogen as well as gas separation and purification technologies and technical support to the chemical processing industry, but they are also a chemical company, unique among the major industrial gas suppliers. “Luckily for Air Products, gases do not have a “China effect” because you cannot import gases. With that being said, Air Products’ customers compete against cheap Chinese products, so we are impacted indirectly and must remain competitive. Taxes in Brazil are relatively high for any type of importation, which gives incentive for companies to import chemical concentrate and make the mix here, which is cheaper. In terms of our products, even one drum of our additive makes a large volume difference to our customers’ product line. Air Products is known for its innovation and operational excellence in addition to high its ethical standards and health and safety,” says Riveros.

These qualities have translated into a very successful operation in Brazil, specifically in the Camacari area. “We are the leader in hydrogen production. Our customers need reliable sources of hydrogen so we sell on-stream, high reliability plants and use our global expertise to avoid any interruptions to production. We also provide capital efficiency and a strong value proposition because we are not only selling a gas, we are selling a solution. Air Products has an entire staff team focused on using gas to improve our customers’ business processes.”

Magnus Karlson, business manager and chairman, Brazil industrial gases, Linde

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Pedro Manuel Riveros, managing director for South America, Air Products

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**DISTRIBUTION**

Brazil’s distribution business has been through several changes, from the liberalization of the industry in the 1990s to the introduction of the Responsible Distribution Process and the current trend of consolidation.

Mario Grumach for Sulalatantica, describes the rollercoaster of the past decades: “Brazil emerged from hyperinflation and in the last fifteen years we have endured an inflation rate of only 150%. Although this inflation is nine times higher than Americans, Europeans or Canadians, who have been used to having huge inflation, it was a much easier percentage to run a business with. Companies with a structured business were the only ones to survive and Sulalatantica was one of them, but for many years, the business stagnated. The industry did not have a way to buy, there was an abnormal protection that did not allow the competition into the industry. Then in the 1990s we opened our ports and our market opened and we began a ‘quality phase’: more quality and more competition.”

On the other hand, for producers the mindset is still required. “A challenge we face as distributors is with the culture of the local producers. The average distribution participation in the chemical industry is around 20% but in Brazil we are close to 12%, this means there is a lot of space to grow in the market, but we need to change the mindset of the producers. We are seeing progress, and producers are learning that distributors have a very important role in the market; previously it use to be only 7%,” says Victor Cutait, director of M.Cassab.

**INTERNATIONAL PRESENCE**

Associquim, the National Association of Chemical and Petrochemical Distributors in Brazil, was founded in 1960 and at present has over 120 member companies involved with the distribution of chemical and petrochemical products, accounting for more than 50% of the consumer industry. Composed predominately of family owned-businesses, with the exception of a handful of multinationals, Brazil’s distribution industry is led by family owned-businesses, with the exception of QuantiQ, owned by Braskem, mostly family businesses.”

Across the globe one can see this trend of market consolidation amongst distribution companies. According to Dantas: “now this trend is stronger in South America and Brazil is prepared for it. When Brenntag entered Brazil in the 1970s, the larger distribution companies worldwide started paying more attention to South America and now everyone wants to come to Brazil. Coremal, as with many other companies, is open to discussing a deal that may bring value to its operation.”

**IMPORTS**

As Brazil lowered some domestic market barriers to allow more competition from products manufactured abroad, which of course resulted in the opening up of trade, the industry saw large spikes of import growth amongst the chemical industry as well as the automotive, textile and food sectors. The chemical industry also experienced high export growth rates. In light of these changes in the marketplace, Jan Felix Krueder, director of Arinos Quimica by Univar, a leading global chemical distributor. Another successful family-run distribution business established in 1952, Coremal, is among the top 10 largest in the country. Coremal’s director, Romero Dantas, has also seen the enthusiasm from abroad: “we have an expression in Brazil, ‘a bola da vez’, meaning that everyone wants to come to our country. Only a handful of distribution businesses are international; Univar (recently acquired Arinos), Brenntag and Pochteca; the remaining players are, with the exception of QuantiQ (owned by Braskem), mostly family businesses.”

Jan Felix Krueder, general manager, Quimica Anistacito
of Quimica Anastacio, a local Brazilian distribution company, reconstructed the face of his business from a producer of fatty acids to exclusively a distribution business: “our annual sales in 1997 were $3 million. Over the next five years we invested in new equipment to increase production and in 2001 we decided to expand our business into the distribution of imported products with a similar product line to ours. This business grew so quickly that after two years we decided to stop production of glycerine and fatty acids and to focus solely on the distribution business. In these eight years we expanded to be one of the biggest distributors in Brazil, with sales in 2010 reaching $200 million.”

Such growth is difficult to sustain. Anastacio has added a complimentary segment to their business to continue expanding and servicing their customers. “We have decided to import products from around 30 different countries, to buy from local producers and to buy local or imported materials and outsource them in six different industries. The outsourcing business has been successful, as we have found a lot of companies with good technology and good quality but lacking the financial structure to run by themselves and with our strong sales department we can offer very competitive purchasing. We are very fast in making decisions and one of our biggest strengths is our agility…”

- M. Cassab’s director and shareholder, Victor Cutait, affirms: “when products arrive in Brazil, they take 15 days to clear the ports. This is in comparison to a country like Singapore that takes one day.”

Spanish Chemicals, a family owned distribution business celebrating 30 years of operation, is better in India, we import from India. Operations. For instance, if it is cheap in China, we bring it from China; if it is better in India, we import from India. However, there are two sides to this, if you start bringing too many foreign products, your client will stop buying your products because they are imported or else they will stop producing. Therefore, we have a dilemma in Brazil. We have the exchange rate favoring some products that come from abroad and use cheaper labor, including China and India. I do not think it is a good option to stop these imports knowing that Brazil also exports to these countries. One of the largest consumers of our products is China, so if you stop these imports you can also stop China from buying our products. There are a series of nuances and variables but Brazil has big opportunities,” explains Leonardo Roisman, board assessor for Sulatlantica.

The national consumption of chemical products for industrial use showed a growth of 9.68% in 2011, according to the Situational Monitoring Report (ABIQUIM). The problem is the inability of local production to keep up with domestic demand. Even as consumption increased in 2011, there was a fall in production of 3.83% and a 4% decrease in domestic company sales, which meant a heavier reliance on foreign products. Purchases of foreign chemicals have grown as a result of state tax incentives for imports and due to the appreciation of the real against the dollar. The international crisis has consequently led to a global surplus in chemicals, which in turn drives import growth. Rubens Medrano, president of Assoquim, cautions: “imports are a big risk to the chemical distribution industry, considering the commitment of capital, risk of exchange rates, logistic costs and competition.”

Medrano is also president of Makeni Chemicals, a family owned distribution business celebrating 30 years of operation. The exchange rate, with the real overvalued, inevitably stimulates imports. He continues: “Brazil is competitive to the door of the plants, and then everything is more expensive with tax and miscellaneous costs.”

A drastic reduction of the so-called ‘Brazil cost’ would inevitably increase productivity.

For Brazil’s abundance of chemical distributors, a lack of infrastructural capacity and time delays at ports make it harder to achieve efficient delivery. M. Cassab’s director and shareholder, Victor Cutait, affirms: “when products arrive in Brazil, they take 15 days to clear the ports. This is in comparison to a country like Singapore that takes one day.”

M. Cassab is one of Brazil’s largest distribution companies, having achieved this position by being accommodating of Brazil’s unique hurdles. “We pride ourselves on our service division and we offer packaging and finance solutions. For instance if we import from China, the time it takes from shipment date, to transit to clear the ports can be lengthy. Therefore, we pay the suppliers one or two months before we receive the payment from the customers.”

M. Cassab is a Brazilian business group, established over 80 years ago and known mainly for its diversity and international presence. This family owned business has more than 15 business units including distribution, trading, retail and services sectors has expanded its international footprint to strategically position itself to capture the trade with offices in Asia, Middle East, South America and the US.

RESPONSIBLE DISTRIBUTION PROGRAM

Distribution was marked by another key milestone; Brazil’s Responsible Distribution Program (PRODIR), which has since been amended in 2010 in line...
with the standardizations of the Canadian and US practices. The program requires members to continuously improve performance in protecting health, safety, security, and the environment. Recognizing this important milestone, Rubens Medrano, president of Associquim, can safely comment: “now, producers worldwide can find distributors in Brazil with the same level of service quality. This facilitates new trade agreements and strengthens Brazil’s commitment to sustainability in the sector.”

TRANSPORTATION AND LOGISTICS

In recent years, the Brazilian government has focused its attention on the strategic ports of Brazil. The largest port in Brazil, the Port of Santos, remains a major bottleneck. In Santos, the port is congested, costly and highly inefficient. Sulatlantica’s Leonardo Roisman explains: “when the roads are in terrible conditions and that should be the main part of a logistic plan because they are cheap, are almost non-existent in Brazil... the way things are now, we pay less to transport something from China to Brazil then from Rio to São Paulo.”

While upgrades and expansions are currently underway and a new port is being constructed in Rio de Janeiro state, Trust Trading and Logistic built their business around the port of Santa Catarina to take advantage of the lower operation costs. Managing director Julian D’Almeida Victorino describes the company’s business approach: “as a part of our solution, we look for the port with the best tributary cost for that specific operation. At this point the best port in terms of costs has been Santa Catarina. That’s why we opened a unit there, with an area of around 80,000 m2 and 8 km from Itajai and Navegantes ports where we receive the raw materials. We have built a business center for our customers to open their branches. Our facilities are ready to receive any chemical products.”

Trust Trading and Logistic offers clients personalized solutions in trading, import and logistics in Brazil, working with many clients from abroad that have no structures of their own in Brazil.

Cesari, a storage, transport and logistics solutions provider, shares the belief of Sulatlantica’s Roisman that railways are the solution to Brazil’s infrastructure challenges. The company is in the process of extending a railway line from their terminals to Santos and Guarujá ports, which will stretch 20 km from the ports in either direction. Francisco Spina Borlenghi, president of Cesari, explains: “we need to modernize the infrastructure in Brazil to be competitive in the international market. In Cesari’s logistics area we have a team of over 500 employees where their focus is on developing new services for logistics solutions and prospecting new customers. We are also active on the road, sea and air, and now, with our new railway project, we are active by train. Most of our customers do not have space to store their own inventory on-site, so they need speedy and efficient delivery of their goods, which is why we are investing in railway logistics.”

In addition, the company is planning to use a duct system to connect all ports to Cesari’s bases in Cubatão and Santo André within three to five years. Cesari has around 200 isotanks for leasing in the internal market and the area to support 80 million liters of liquid, in addition to over 100,000 square meters of storage space in its warehouses. Cesari’s business has adapted with the development of Brazil’s regulatory framework in the chemical industry and the company has recognized the requirement for companies in the sector to tighten their environmental policies to remain not only compliant, but also competitive.

Borlenghi states: “we have today terminals where we receive and distribute other chemicals derived from liquid bulk. We often store the ISO tanks here to export to customers in foreign markets, which is an important part of our business. In addition to the terms of delivery, we perform the maintenance of the containers, sanitation and decontamination of the equipment because today’s environmental regulations in Brazil are very strict in both transport and terminal legislation. Cesari is certified by a number of international organizations and is one of the few companies here in Santos that has the quality and environmental certification necessary to provide this service, and we see

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it as an area of growing need for our customers.”

André Luiz Façanha, executive director of Grupo Toniato, agrees that Brazil’s infrastructure leaves much to be desired in terms of efficiency. In trying to deal with this lack of infrastructure, Grupo Toniato has taken the lead in the transport sector by acting as a liaison between companies and the government. “Year by year, we promote meetings with the supply chain directors of our clients to discuss the very important issues for our business. We lay out the main points on the table of government initiatives that concern the chemical industry. We need the power of the industry to demand cer-

discount the state of the roads which the chemi-
cial industry so heavily relies on. Many of the high-capacity trucks that companies such as Grupo Toniato have in their fleets are not able to successfully pass because of restrictions on size. With 90% of the load in the chemical industry transported by road, this reality needs transforming sooner rather than later.

In addition to working with clients to address their concerns with the industry as a whole, Grupo Toniato also prides itself on providing a thorough portfolio of services. Established over 35 years ago, the company holds a strong pres-

tence throughout the southwest region of Brazil and has developed its capabilities alongside the chemical industry. Where Façanha feels that the company stands out in comparison to others is in its rel-
nationship with its clients going beyond transport: “we are a really full-service oriented company. Instead of just calling us to arrange for transport, clients call us to discuss their projects, their needs, and the best way to handle logistics.”

By creating four separate companies under one umbrella, Grupo Toniato has managed to specialize its services to meet the widely varied needs of their cli-

teants. “We have special chemicals, paints, varnish, agrochemicals, gas and liquids, logistics, and glass. Our management team consists of experts who are knowledge-

able in every one of these fields in order that we can provide specialized and personalized services to our clients, rather than just simple transport.”

As multinationals begin penetrating the Brazilian market further, Façanha sees Grupo Toniato maintaining its position as a key leading player in the transport in-
dustry. “There are a lot of Brazilian comp-

panies in each industry and sector that provide transport, but we are still ahead. Many multinationals are buying local com-

panies in joint ventures, but they re-

main Brazilian managed and operated. We have had many people knocking at our doors yet. At the moment remain focused only on building our company and maint-

aining our clients’ satisfaction.”

Despite these challenges, Vopak, the global market leader in the independent storage and handling of liquid oil prod-

ucts, chemicals, vegetable oils and lique-

fied gases with operations in more than 31 countries, has identified Brazil as a major opportunity for growth. Recently appointed director for Vopak Brazil S.A., Daniel Lisak, comments: “Brazil is one of the most important countries in the Latin America region for Vopak. Look-

ing at the GDP growth and related in-

creasing logistic product flows, the main possibility for larger volumes and larger cubic meters in Latin America exists in Brazil, thus Brazil is a major focus for the group... Vopak has been in Brazil for over a decade through the acquisition of two familial companies and is present at the Aratu Terminal, which is strategically located to supply the fast growing region of the north-eastern Brazil. This is a key site to serve Camacari, the biggest pet-

rochemical complex of South America. The Alemoa and Ilha Barnabe terminals in Santos are strategically located at the fast growing number one port in Brazil; and in Paranagua through a joint venture, União/Vopak, the second most important port for liquid bulks in Brazil. Thus we are well positioned to build on the found-

dation we have in Brazil and grow the

operations to be the leader in our field.”

IC Transportes works in the states of São Paulo, Minas Gerais, Goiás and Parana, providing top tier solid and liq-

uid bulk transportation services to the area. The company’s main focus is the transportation of raw material for fertiliz-

ers, such as sulphur, potassium chloride, phosphate rock, MAP, nitrate, and urea, and they use technology to help secure their place in the market. The company
has implemented a state of the art GPRS tracking equipment and satellite technol-
gy to the company’s 1,000 vehicles that
provide its customers with online infor-
mation about the logistics and safety po-
sitions of their goods. Director and owner
Ivan Camargo says: “we have telemetrics
on board each of our trucks which pro-
vides us with total control. We have the
ability to know specific details on the
truck and the load at any given time; for
ability to know specific details on the
market 10 years ago in a joint venture
with a local company called Irga. Under
the terms of the partnership, the market
has proven itself to the Brazilian
consumers; as the new refineries create a lot of
vantage as the only multinational in its
industry agree unanimously that Brazil is
discusses some of their pioneering equip-
ment being used in the country: “we have
just mobilized the newest generation of
PTC cranes, which is a 3,200-metric ton
cap crane. It is in Rio Grande do Sul,
and once it is assembled it’s going to lift
heavy modules up to 1,600 metric tons onto
a FPSO ship.” Mammoeet has an ad-
advantage as the only multinational in its
line in Brazil for the past decade. Booden
points out the potential for further growth,
saying: “we are currently still relatively
small compared to other parts of the world
in Brazil. The expectation for the coming
years is to make a big jump. There is no
one in the market that supplies the truly
heavy equipment that we do. Our clients
realize this and have confidence in us; we
have proven ourselves to the Brazilian
market, so we are very well positioned at
the moment.”

Another multinational expanding its
footprint in Brazil, Mammoeet, entered the
market 10 years ago in a joint venture
with a local company called Irga. Under
the terms of the partnership, the market
has been split into three segments. Irga
oversees telescopic range equipment
and over-the-road transport, equipment
ranging from 200 metric tons to 600
metric tons is distributed and operated
jointly, and work involving larger loads
is done exclusively by Mammoeet. Michel
Booden, director of Mammoeet Brazil,
discusses some of their pioneering equip-
ment used in the country: “we have
just mobilized the newest generation of
PTC cranes, which is a 3,200-metric ton
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Marcos A. De Marchi, president of Rho-
dia Latin America explains: “Brazil is a
country of opportunities. We still have
15% of homes without access to running
water. We still have one car per seven
people, compared to one car for 1.2
people in developed countries; you can
imagine the opportunities you have in
the automotive industry, so it is not sur-
prising the car industry has grown from
4 million to 6 million cars production in a
period of five years. We still have a
consumption of electricity that is eight
times smaller than the US, basically half
of South Africa in terms of kilowatt per
person per year. The former President
announced the country had brought 30
million people from D and E to C class.
This means essentially a whole country
brought to consumption and this is the
reason for the growth in the country. Five
years ago, Brazil was the 10th largest chemical industry worldwide and today
we are the seventh… Brazil needs the
PACT between the government and the
private sector to ensure we do not lose
the opportunities that we have in front
of us. We need access to raw material at
competitive prices and assured volumes.
We need a reform of our tax system; Bra-
zil has imported products paying less
taxes than the home made products…
this has to be addressed, as well as the
logistics and infrastructure, including
the ports and roads and if we address these
issues on time, we will be in a position to
be amongst the top five chemical indus-
tries worldwide in the next five years.”

Alexandre Bertoldi, from leading law
firm’s Pinheiro Neto concludes: “Brazil
offers a very good and valuable finan-
cial sector, a legal system that is reliable,
stable institutions, political stability and
a huge internal market. Brazil is a place
that any player with ambition of being a
global player has to be. There is no way
to the global and not be in Brazil.”

Despite any current challenges facing
the Brazilian chemical sector, the compa-
nies that make up the country’s growing
industry agree unanimously that Brazil is
home to determined business profession-
als that have led their companies through
high inflationary times and economic
busts in the past, which has helped to
create the resilient and innovative cul-
ture that is widespread in the sector to-
day. Optimism for Brazil’s growth is not
only coming from foreign observers,
but it is felt on the local level of business
from producers to suppliers, and logistics
and service providers. If Clemis Miki of
Linde Gases is right, Brazil will maintain
its spotlight for some time to come: “for
those who know how to survive, they
will take the best wave. It is a good wave
we are in now, in Brazil: the future is not
tomorrow, it is already here.”