SPECIAL REPORT ON SOUTH AFRICA

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South African Chemicals: Is there gold at the end of the rainbow?

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INTRODUCTION

Africa's largest economy is home to an ambitious chemicals industry looking to expand its horizons.

Is this really Africa's decade? With the lingering global economic slowdown aversely impacting markets from Barcelona to Beijing and the uncertainty caused by the Arab Spring in North Africa, it is not unlikely to assume the once "hopeless" continent could be sucked into a decade of stagnant economic growth. Three of Africa's ten largest economies, Egypt (3), Tunisia (8), and Libya (10), face challenges in the aftermath of their respective revolutions.

Yet sub-Saharan Africa is continuing to post robust growth figures. With some exceptions, sub-Saharan African governments have created a business environment of unprecedented stability in the region, which has allowed sustained growth to occur. According to the IMF, sub-Saharan Africa's real GDP growth is forecasted to remain around 5.3%, in 2013, in line with growth figures from the three previous years. More importantly, the number of households on the continent with an annual GDP of over $3,000 is expected to rise from 60 million in 2011 to 100 million in 2013, according to South Africa's Standard Bank.

The emergence of this substantially larger consumer class will have a significant impact on the chemicals industry. André de Ruyter, Sasol's senior group executive for Global Chemicals & North America, explains: "There is a tipping point in GDP per capita at which people become significant chemical consumers and Africa is not yet at that point. At the same time, it is clear that the policies currently instated in many sub-Saharan African countries are indeed conducive to economic growth. This is coupled with the potential for market growth and access to natural resources."

South Africa's government and industry are eager to demonstrate South Africa's influence in regional affairs. The country is already the dominant player in the South African Development Community (SADC), and its entrance into the BRICS association of emerging influential economies in December 2010 shows the country has a desire to be seen as a leader both continentally and globally.

To facilitate expansion in Africa, the Industrial Development Corporation (IDC) and the South African government have put in place a five-year plan to rebuild the South African industrial base. This will be done through investment in the manufacturing of metals, textiles, forestry and chemical production. These plans are set out in accordance with the New Growth Path and Industrial Policy Action Plan (IPAP) that was released by the government in April 2012.

The IDC's Chemicals Unit has identified potential opportunities within the SADC region for mining chemicals, agrochemicals and biochemical products. With growth slowing in the domestic market, the government aims to look for growth outside of South Africa as once poverty-stricken markets develop a first-time demand for chemicals.

While South Africa's development has resulted in a chemicals industry that is predominantly composed of foreign firms

Deepening the value chain of **the chemical sector**

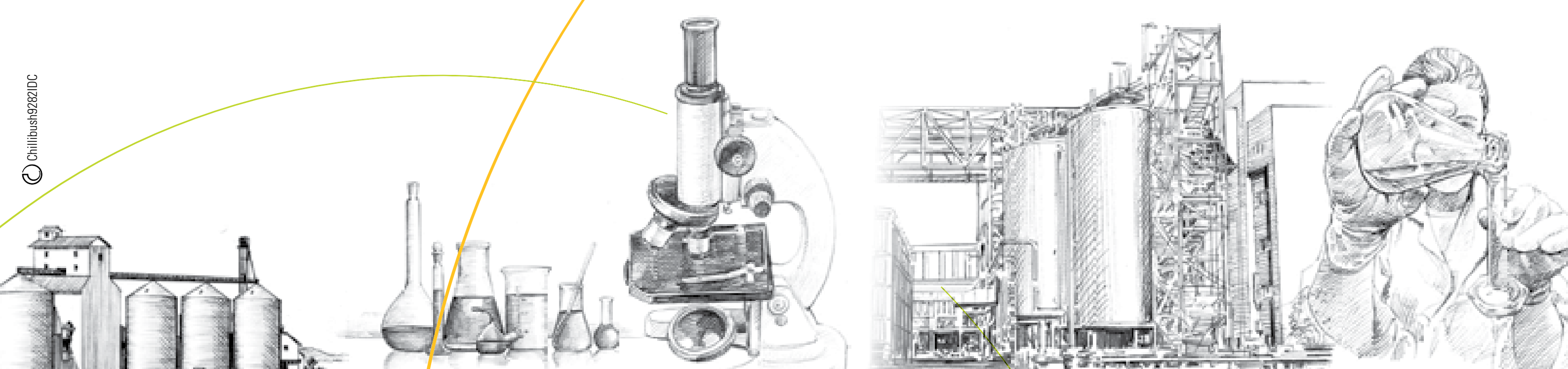
Many companies within the chemicals sector and sub-sectors are currently reporting increased demand for products due to improved economic conditions. This is driving increased activity for the IDC's Chemical and Allied Industries Unit, which invests in projects in a number of chemical industry sub-sectors across the value chain.

From fertilisers, to detergents; disinfectants and packaging, South African consumers are the end beneficiaries to many industries within the chemicals sector. The Unit concentrates on the manufacturing of base chemicals, including oil and gas, plastics and rubber, cement and concrete, cosmetics, glass and ceramics. Projects that have the potential to develop new industries, lead the expansion of existing ventures, or replace the need to import materials, are a key focus.

The strategic objective of the Unit is to deepen the value chain of the chemicals industry sector, including the security of supplies for key inputs into infrastructure, food and energy needs. The Unit will target investment of more than R7bn over the next five years, into sub-sectors that include polymer conversion, water treatment chemicals, agriculture products, infrastructure-related materials, speciality and fine chemicals, and rubber products.

Prime examples of the Unit's investment into the chemicals sector can be seen in mining company Foskor, initially founded by the IDC in 1951; Bliss Chemicals (Pty) Ltd, which is the manufacturer of MAQ detergent; ITB Manufacturing, award-winning plastic film packaging manufacturers; and BTC Products and Services (Pty) Ltd, a leading South African manufacturer and distributor of Chlorine Dioxide (CD) that ensures safe drinking water.

The Unit was involved in the introduction of Broad-Based BEE groupings into Foskor, which resulted in IDC's shareholding reducing from 85% to 59%. The company continues to provide a domestic source of fertilisers and supports the sustainability of local agriculture. Bliss Chemicals (Pty) Ltd, a relatively young company has, with financial assistance from the Unit, been able to diversify their popular MAQ detergent and extend their product offering. MAQ washing powder currently has a 25% share of the detergents market. ITB Manufacturing, located in the municipality of eNdondakusuka between Durban and Richards Bay, is involved in a number of social initiatives in the economically-stricken surrounding area. The Unit has financed a financial services and human resources consultancy company via a SPV structure, to address the shortage of equipment and resources. BTC Products and Services (Pty) Ltd, with funding from the IDC, has been able to develop its OXICAT Chlorine Dioxide technology that provides a number of innovations to treat water for safe drinking.



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and their local distributors, the value of domestic manufacturing heavyweights such as Sasol, AECI, Omnia and Aspen Pharmaceuticals should not be underestimated. Alongside these dominant players, small and medium-sized enterprises (SME's) also play an increasingly important role in the South African economy.

The chemicals industry is a priority sector as IDC's Hilton Lazarus, head of chemicals and allied industries' strategic business unit, explained: "Chemicals offer vital support and are growth drivers to many different industries such as the energy industry, the agriculture and infrastructure to name a few."

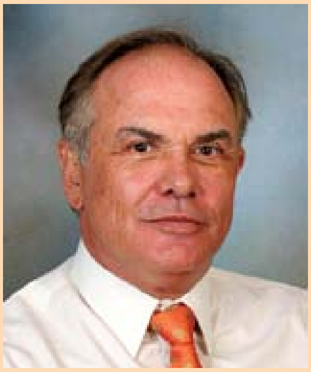
"It will take a new paradigm for South African manufacturing to grow again: there needs to be a focus on making South African manufacturing more suitable for the rest of Africa, with a focus on subsistence farming and the basic consumer needs of a middle class earning $10 a day. South Africa needs to take advantage of

Hİlton Lazarus, Head of Chemicals and Allied Industries' Strategic Business Unit, IDC

Dr. Graham Edwards, former Chief Executive, AECI Limited

Interview with Joaquin Schoch

CEO of Safripol and chairman of the Chemical and Allied Industries Association



What role does CAIA play in such a diverse industry as the South African chemical sector and how can it bring together multiple stakeholders with a broad range of interests?

CAIA has been very successful in being the voice of the industry and in our advocacy efforts, which we undertake in order to place the industry in the right context. Naturally, we conduct regular reviews of our opportunities and challenges in the ever changing macro-environment and we update our priorities. As an example, our latest review signaled that we ought to spend most of our resources (27% of votes) for the wider promotion of the chemical industry. Not surprisingly, 18% of votes went to the investigation and exploitation of opportunities in Africa and the same 18% needs to be allocated to advocacy work, an ever increasing burden.

Responsible Care® work will still take about 13% of our efforts, much less than before because our program and systems are well up and running. The rest of our time should be split equally between education and skills development initiatives and public relations activities. Other than that, we like to believe that we are easily accessible and can respond to the concerns of our members and/or the industry at large.

At all levels of the chemicals industry South Africa faces an acute skills shortage in the labor pool. What role can CAIA play in training workers to become more efficient and how can the "brain drain" from South Africa be reduced?

As mentioned above, we are active with tertiary institutions in order to review curricula, to be accessible to students and leaders of the institutions and to partner for success. The sectorial training authorities in South Africa have very considerable resources. With regards to "brain drain" we face a global shortage of skilled people and hence some people are lured away. This was especially the case before the global crisis with many South Africans leaving to the Middle East, Australia, North America, Europe or even on contract work at remote locations such as drilling platforms. Whilst there will always be the rule of supply and demand and people moving for the highest paid job, it is also true that comfort, quality of life, cost of living and patriotism play a role In this latter context, the overall state of South Africa as a prosperous nation is immensely important.

The chemicals sector contributes approximately 5% of South Africa's GDP. How does the chemicals sector enable other areas of the economy?

The chemical industry is an enabling industry par excellence. The basic products and materials are essential for the downstream large industries, be it automotive, construction, food packaging, water safety, transportation, pharmaceuticals, fertilizers, mining and really about every industry. The wealth of the upstream chemical industry is often contagious downstream. Our job creation multiplier effect is enormous. As we develop even more into well-being health practices, advanced materials and composites, electronics and information technology, the need for chemicals continues to increase exponentially.

its technology advantage in supplying these continental markets," said Dr. Graham Edwards, former chief executive of AECI Limited.

Evonik Degussa Africa's Dr. Iordanis Savvopoulos, president for sub Saharan Africa and managing director, agrees that the race for business in Africa has begun: "I expect this growth to be fuelled by more investments from local companies and I also expect more foreign companies to turn their focus towards South Africa. In my opinion, many of the organizations that are looking towards Africa will enter South Africa and use it as a base while working their way up towards the northern side of the continent."

Sub-Saharan Africa, especially southern Africa, is booming due to a multitude of recent resource discoveries in both minerals and oil and gas. If utilized correctly, these discoveries could help fuel rapid economic growth in the region over the next decade. As regional growth continues, the South African chemicals industry has the potential to help facilitate industries from every sector.

MANUFACTURING

STRATEGIES TO CREATE "A NEW PARADIGM"

Since the end of apartheid, South African manufacturing has declined as a once insular industry became more exposed to global markets. However, chemicals manufacturers supplying niche markets are finding innovative ways to become increasingly competitive.

As South Africa reintegrated into the global economy in the early 1990s, the chemicals manufacturing sector found itself in a difficult position as global technological capability and efficiency had surpassed South Africa's capabilities as the international community divested from South Africa during the 1980s. As domestic manufacturers struggled to catch up, foreign distributors from the West reentered the market, while many Asian firms simultaneously entered for the first time.

The effects of this phenomenon are felt today as South African firms either have had to catch up or close down. Although it is home to the continent's largest chemicals industry, South Africa is by no means a global powerhouse, only accounting for 1% of global chemicals production according to South

Dr. Iordannis Savvopoulos, President Sub Saharan Africa and Managing Director, Evonik Degussa Africa

Dr. AJ Brink, Chairman, Karbochem

Africa's Chemical and Allied Industries Association. This can put South Africa at a disadvantage vis-à-vis a larger economy. "The size of our market is not quite big enough for the economies of scale we would like; South Africa tends to have smaller plants than the rest of the world," explains Dr. AJ Brink, chairman of Karbochem, South Africa's largest synthetic rubber and latex producer.

In 2003, Dow divested of several assets in South Africa, including a polypropylene and high-density polyethylene production facility and a synthetic rubber and latex production facility. Domestic investors purchased these assets and they were established as independent locally owned entities under the names Safripol and Karbochem, respectively.

According to Joaquín Schoch, CEO of Safripol and chairman of the Chemical and Allied Industries Association, the sale by Dow allowed him to establish a company geared towards regional needs in the polymers sector: "Global players like Dow take a long-term global view and thus, where they choose to manufacture is less important to their operations. As a result of Dow's sale, Safripol is a regional player. We see ourselves filling a gap in the domestic and regional markets with the capability to reach countries almost as far north as the Sahara. Regional suppliers are able to survive in this global environment of bulk production at low unit cost due to local advantages such as better product support, shorter lead times, consistency of supply and logistical advantages such as the present trend of having smaller plants in more locations around the world instead of a few global manufacturing centers."

Patrick Earlam, Chemicals Industry Leader, Deloitte

In becoming independent from Dow, Karbochem has exploited styrene and butadiene raw materials synergies between its latex and rubber production, invested inwardly in R&D to diversify its product range to include styrene acrylates and pure acrylics, while also diversifying the geographic reach of its exports in order to mitigate the effects of the Euro zone downturn. The company has found receptive new export markets in the United States, particularly for rubber golf ball cores, while enjoying approximately an 85% domestic market share in the face of cheaper foreign competitors. " This is partly because of our quality and partly because we deliver reliably on a just-in-time basis," explains chairman Dr. AJ Brink. "It would be foolish not to view South Africa as our primary market, simply because of the additional cost of exporting. Our mission is therefore to serve local industry as much as possible and then export the balance of production. Karbochem currently has capacity for about 90,000 tons of rubber annually, whereas the local demand for our types of products amounts for just under 50,000 tons per year."

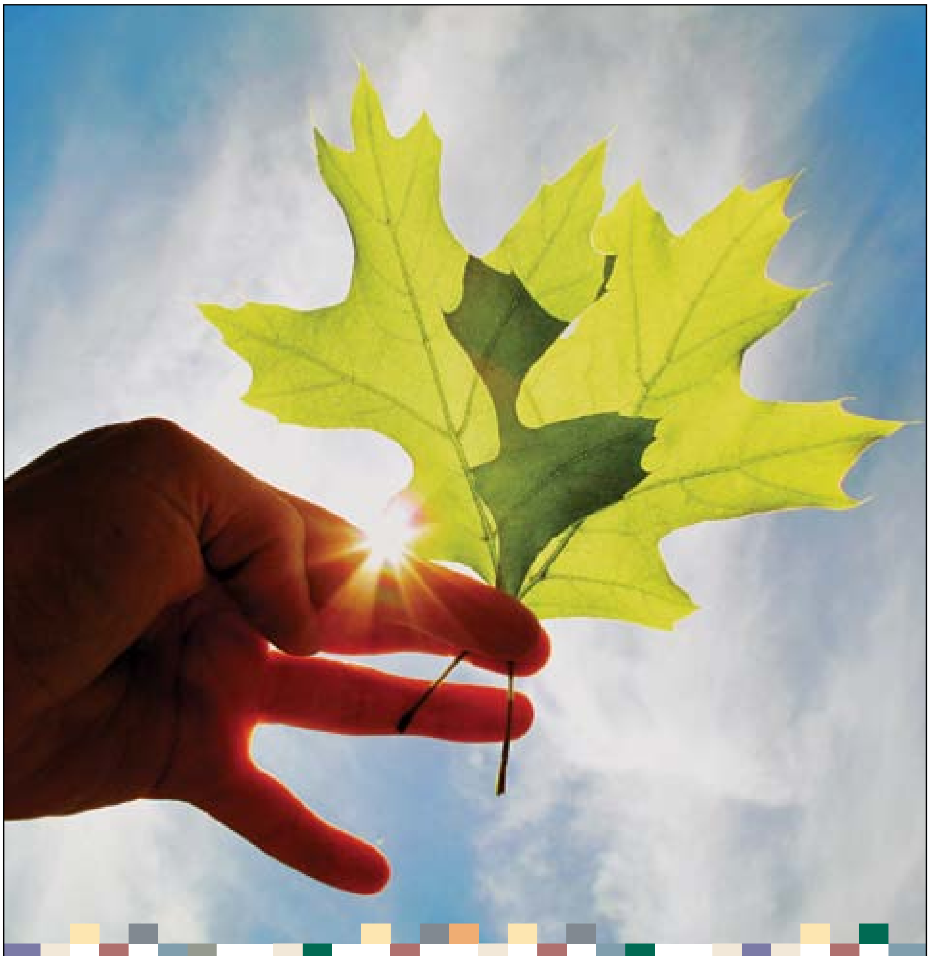
However, most South African manufacturers are not in the same domestic position of dominance as Sasol, Safripol, or Karbochem. Manufacturers that have survived in the face of global competition have looked towards outside assistance to remain competitive. As Patrick

Earlam, chemicals industry leader of Deloitte, points out: “South Africa does not have the scale of investment to be at the cutting edge of R&D, so we need to partner with the big inbound multinationals to come up with solutions that will work in Africa.”

Even South Africa’s second largest chemical company, AECI, has turned towards manufacturing under technology sharing agreements with larger global players to serve African markets. Jaco Engelbrecht, former managing director of Chemisphere Technologies, an AECI group company, explains: “There is a need to be associated with companies with a strong global reputation [to] allow us to bring advanced technology to the local market at competitive prices.”

Another way that world class manufacturing facilities and technologies make their way into the South Africa is through multinationals setting up operations there. Buckman has been a distributor of chemicals in South Africa since 1971 and due to high demand; Buckman has set up a fully integrated manufacturing facility in Hammarsdale, Kwa-Zulu Natal. Buckman believes that a local presence allows for global information sharing that sets their technologies apart. “We invest a lot of capital and efforts not only in the development of our facilities but also in developing our knowledge and competencies,” says Junai A. Maharaj managing director of Buckman, “we have established Global Workgroups that bring together the very best of Buckman’s minds a few times each year with the goal of further enriching the company’s expertise in a number of fields. These include product and application technology and innovation and problem solving.”

With the strong economic growth in Africa, the demands of the upcoming



Junai Maharaj, Managing Director, Buckman

Carlos Costa Executive Director, Technical and Procurement of Kansai Plascon middle class are changing. Expectations are that such trends will continue and companies will start to think more "Africa-centric" when it comes to setting up manufacturing facilities in the continent. As Evonik Degussa Africa's Dr. Savvopoulos explains: "[There are] many prospects in South Africa such as cosmetics, skin care, and diapers. The middle class in sub-Saharan Africa is growing very rapidly. This is indicative of a change in the mentality of the society and will ultimately lead people to buying products similar to the ones that are popular in Europe or the United States."

One such company that recognized the opportunities emerging in Africa is Japanese paint producer Kansai, which acquired Plascon, South Africa's leading paints and coatings manufacturer, in 2011. "In Plascon, Kansai saw a company with significant history, a well-established brand and a leading position in Africa," says Carlos Costa, Kansai Plascon's executive director of technical procurement.

Buckman's fully integrated manufacturing facility in Hammersdale, close to the Durban Port in Kwa-Zulu Natal

SOUTH AFRICA'S MAJOR PLAYER INVESTING AT HOME AND ABROAD

Although most local players are focused on regional growth, Sasol, the country's largest integrated energy and chemical company, is looking to exploit its competitive advantages on both a regional and global level. "If Sasol only invests in South Africa, then we will grow at the same multiple as South Africa's GDP; our ambitions are higher than that," says Sasol's André de Ruyter.

Sasol splits its chemical operations into two clusters. The first is a non-integrated production of products including wax, ammonia, solvents, and polymers. The second cluster is integrated into Sasol's Fischer-Tropsch process, which utilizes proprietary use of coal-to-liquid and gas-to-liquid technology to create petrol, diesel and a number of chemical derivatives including hard wax and olefins. "The product of this process is arguably one of the more diversified portfolios of chemical products in existence," says de Ruyter.

Due to its unparalleled expertise with the Fischer-Tropsch process, Sasol has invested heavily both in South Africa and abroad to make use of its technological advantages. Domestically, Sasol has invested in a 1.3 billion ZAR C3 stabilization project, a 1.9 billion ZAR ethylene purification unit, and an 8 billion rand hard wax expansion project in Sasolburg, to all come online in the next five years.

As shale gas production continues its rapid rise in North America, Sasol has sought to capitalize on the opportunity. In December 2012, Sasol made headlines as it announced an investment of between $16 billion and $21 billion in a gas-to-liquid and ethylene cracker complex in Lake Charles, Louisiana;

André de Ruyter, Senior Group Executive, Sasol

Marinus Sieberhagen, Managing Director, Sasol Polymers

Dr. Sven Godorr, Executive Manager, Sasol Research and Technology

one of the largest foreign direct investments in United States history. Marinus Sieberhagen, managing director of Sasol Polymers, explains: "Whatever is forthcoming from the ethylene cracker in Lake Charles, Louisiana will yield a number of derivatives. Polymers will have a portion of the cracker complex in Louisiana, with polyethylene forthcoming. A final investment decision has not yet been made, but it will be a world-scale complex with the cracker alone having a capacity of 1.5 million tons annually."

Dr. Sven Godorr, executive manager of Sasol Research and Technology, sees taking advantage of the shale gas boom as a key priority for the company in the near future: "The shale-oil disparity at the moment is really in our sweet spot with our GTL technology. Although things have moved in our favor in the last five years, the technology for GTL is not easy and the costs are still a bit too high. We need to move quickly in perfecting this technology in order to fully take advantage of the opportunity shale gas in the US has afforded us."

MEGATRENDS: INCREDIBLE DEMAND POTENTIAL

With the population of sub-Saharan Africa expected to double by 2050, the South African chemicals market is well positioned to take advantage of the imminent megatrends in crop protection and water treatment. This enormous growth opportunity could help fuel their bottom lines as well as the economic development of a region for decades to come.

While many sub-Saharan African countries struggle with food security due to decades of lack of investment, poor management, and political instability, South Africa is deemed to be food secure by the government and is a net exporter of agricultural products. Nevertheless, with only 12% of the country's land considered arable, it is imperative for South Africa to maximize its crop potential.

Despite this, the government has made land reform a tenet of its Broad-Based Black Economic Empowerment policy in

Hugo Minnaar, Managing Director, Nulandis

order to encourage farm ownership from previously disadvantaged populations. Land reform, which would rely more on subsistence farming on small farms, could hurt South Africa's productivity. "Many people want land for sentimental value, but they do not necessarily want to farm it. We are going to risk our food security and that is worrying," explains Paul Roux, managing director of Chemtura Southern Africa.

Hugo Minnaar, managing director of Nulandis, nevertheless sees opportunities: "Smaller farmers will consolidate into bigger estates. There will also be an emergence of a new generation of small-scale farmers. There will be further rationalization within the Agrochemical supply chain. Nulandis has to be ready for that."

Villa Crop Protection, a leading domestic producer and distributor of generic agrochemicals, has achieved impressive growth over its nearly two-decades of existence in a crowded market that includes major global producers such as Dow, BASF, and Bayer and local producers such as Nulandis (a division of AECI) and Ag-Chem, which was acquired by South Africa's quickly expanding Rolfes Group in 2011.

Villa Crop expects to see 15% annual growth over the next five years and plans on running over 650 product trials per annum to bring new post-patent products to the market. "We see multinationals scaling down their local product development activities… giving greater market potential for companies like ourselves, "says Dr. Andre Schreuder, managing director.

Similarly, Nulandis supplies internationally sourced products as well as in-house developed chemicals to the South African agricultural sector and abroad. The company currently enjoys a 30% market share in South Africa and has identified sub-Saharan Africa as its next growth area. As Minnaar explains: "Nulandis aims for a 25%-30% market share in sub-Saharan Africa. The main challenge is in the regulatory environment…. Understanding how African countries operate is an intrinsic task. Each country has its own set of rules and styles and monetary regulations. Logistics are also very costly."

WATER TREATMENT: A CRITICAL POINT

In the water treatment sector an increase in activity transcends borders as governments, non-governmental organizations, and the private sector have taken note that sub-Saharan Africa lags behind the rest of the world in providing potable water to growing and increasingly prosperous populations. Despite the impressive economic growth of sub-Saharan Africa, only 61% of people have access to improved water supply sources, compared to 89% globally.

Demand is apparent as companies start branching out into water treatment, using South Africa as a base to operate across sub-Saharan Africa. French multinational Veolia Water Solutions has seen increased demand for the municipal side of its business, whereas in the past industrial water treatment was the focus of its sub-Saharan operations. According to Hein Van Niekerk, general manager for chemicals and consumables of Veolia: "There is now a strong emphasis on the municipal market, where service delivery has been lacking across sub-Saharan Africa. Governments are under great pressure and funding is finding its way to these countries."

Nalco Africa, in partnership with Ecolab, is the largest specialty water treatment company in South Africa.

Nalco specializes in water reuse and finding ways to ensure zero discharge. According to managing director, Paul Voorhout, water scarcity will reach a critical point as early as 2025. Industries such as mining and energy are massive consumers of water.

In order for economic development to continue in the region, access to scarce water resources must be properly expanded through astute government policy and the involvement of an active private sector that is willing and able to take on the challenges associated with doing business in Africa. "Water is an enabler or inhibitor for industry in what is effectively a semi-arid region," says Fred Platt, CEO of Johannesburg-based Accéntuate.

Accéntuate's industrial chemicals business unit, Safic, recently signed a joint venture agreement with Indian water treatment company Ion Exchange. Platt believes Ion Exchange India is an ideal partner for his company due to their experience: "The challenges we face in South Africa and on the rest of the continent are some of the same challenges India has effectively addressed. Ion Exchange is accustomed to dealing with rural communities, polluted water and infrastructure difficulties and has vast resources available to deploy in Africa."

Being a global company, Buckman is well aware of the benefits of adopting sustainable practices in South Africa, especially when it comes to water and hazardous materials. "Back in 2009, Buckman adopted the Global Reporting Initiative (GRI) Sustainability Model on an international level," explains Junai A. Maharaj. "In South Africa, we made significant investments in our facility here, which now allow us to treat the wastewater that we generate and recover 96% of it on average and then reuse it."

MOVING TOWARDS GREATER SUSTAINABILITY: WASTE MANAGEMENT

Waste management is not the most glamorous topic, but responsible care of hazardous materials is essential for the manufacturing sector to work inline with global standards. South Africa's hazardous waste managers are increasingly focused on recycling in order to serve the needs of the market and are looking to lead the way in promoting better environmental practices in a developing region. "It is important to realize South Africa is moving closer and closer to American and European legislative standards with regards to the disposal of hazardous and toxic waste. This is only right, because acceptable standards of human exposure should not differ from country to country," says Dr. Christos Eleftheriades, director of A-Thermal Retort Technologies.

Recycling of hazardous materials is nothing new to Metsep International, a centralized waste-acid regenerator for the steel industry that has operated in South Africa for four decades. The nation has become more environmentally conscientious and recycling standards and practices have been forced to conform across all levels of society. Metsep has benefitted from such changes: "The Green Scorpions, an environmental NGO, have put pressure on South African firms to be environmentally responsible and recycle their waste acid, which has helped Metsep," says managing director Robert Watchorn.

Although South Africa's waste management and recycling has evolved to be more inline with global standards, the rest of sub-Saharan Africa lags behind the Rainbow Nation. South African firms see an opportunity to move into these markets, however there are some difficult challenges that will take time and further development to overcome. Metsep faces the same logistical and regulatory issues other waste management firms do when trying to operate in other markets in sub-Saharan Africa: "Trucking the product is expensive, but there are no other options. Hydrochloric acid is cheap and easily available so as long as someone does not have a need or requirement to recycle it, they will not go through the process and costs associated with recycling it," says Watchorn.

DISTRIBUTION

COMPETITION FROM ALL SIDES

South Africa's competitive distribution network includes a number of companies that serve the local market with internationally respected products. As these distributors, along with local manufacturers, look northward to unlock Africa's potential, logistical challenges both domestically and abroad must be overcome.

As South Africa reintegrated with the global economy during the 1990s and early 2000s, the world was in a rapid stage of transition, as Asian economies became the drivers of growth in chemicals manufacturing. The simultaneous arrival of Western and Eastern companies' products into the domestic market lead to the creation of a particularly competitive distribution network. "South Africa has traditionally been a free for all market, easily accessible from all quarters of the world. There was a rush of interest in the country after our politics normalized in 1994, but many overseas corporates were disappointed to find a smaller, less advanced, and much more fiercely competitive chemical market than they expected," says Rod Proome, managing director of local distributor Southern Chemicals.

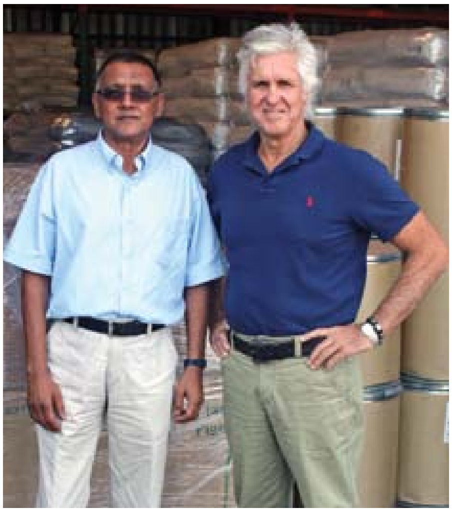
The fiercely competitive distribution market has partially been driven by opportunistic importers seeking to take advantage of the strength of the rand during the global financial crisis. However, the currency has steadily depreciated over the last two years, making domestic manufacturing more competitive and allowing long-established distributors to find a more level playing field. Nevertheless, Asian imports are very present in the market. "The biggest challenge to our business is increased competition from the Chinese market… While we do not avoid Chinese products at all costs, we are wary of quality," says Stephen Mitchell, CEO of Savannah Fine Chemicals, a distributor with a portfolio of over 300 chemicals for the personal care, food and beverage, healthcare and industrial chemical sectors.

Hugo Minnaar, managing director of Nulandis, believes that they have found a way to withstand the fiercely competitive distribution market. "Nulandis took a dynamic step as a supplier to fully integrate into the market. With a market as dynamic as the South African chemicals distribution market there are many new entrants wanting to invest into the agricultural sector," says Minnaar.

Companies who are able to differentiate themselves from their competition through integration and by ensuring that they have a strong national footprint and are attractive to global partners who wish to establish a market in South Africa.

Many of these distributors are looking at technologically specialized products and niche markets as their drivers for growth in the coming years as domestic manufacturing may lack the capability and expertise to supply such products. One way to achieve this is to have specialists on the ground, believes Minnaar: 'In 2005 Nulandis (formerly Plaaskem) took a decisive step as a supplier to forward integrate into the retail segment of the market. The South African agrochemical market is very dynamic with many new entrants wanting to invest into the sector in various ways. One of our key strategies was to establish a national footprint with which to secure the route to market for our internally developed and manufactured products.

Orbichem, a petrochemical trader, is able to serve the needs of the local market as the domestic manufacturing market does not have the capacity to do so. "Oil refineries here continue to make old petrochemical products, but we need to import newer, more advanced oils. There are a host of small oil trading and lubricant manufacturing companies which want a piece of the action, but on their own they cannot justify the import volumes necessary for international firms to take them seriously. In its orders, Orbichem combines the volumes of all these small end users and therefore brings a global solution to a local problem," says managing director Cliff Classen.



Raj Singh & Nick Colepeper, Directors, CPS Chemicals

As in South Africa's waste management regime, customers are beginning to become more environmentally conscious, creating opportunity for global companies with cutting edge technology. Averil Webbstock, managing director of Den Braven South Africa, a leading Dutch sealants firm, believes that the local market, led by larger companies, is realizing the necessity of more environmentally friendly products: "Products are developed in the first world, so their adaptation in South Africa always lags behind. Larger corporations have been demanding green products for their buildings since their carbon footprint is published in their annual reports. These companies are beginning the trend and it filters down through all levels. It is a slow process, but it gets there [to the smaller companies]…In the next few years there will be quite a large amount of growth especially due to the new technologies that can develop greener and user-friendlier products. There are immense opportunities regarding infrastructure, and the trend toward green construction and energy efficiency; we aim to supply the products needed for that."

Nick Colepeper, director of Durban-based distributor CPS Chemicals, believes the climate in the coatings and oil-tech markets is encouraging not only companies, but also government to become more involved in driving demand for environmentally friendly products, "We definitely foresee growth due to both expansion of the market and incentives from the government. In the past, there was little to no legislation or regulation, but the market has changed. Companies and consumers alike are pushing for greener products and this will be an area of continued focus for us… Additionally the export market is driving South Africa and South African producers to be compliant with foreign markets and their standards."

MOVING INTO AFRICA: "NOT FOR THE FAINT HEARTED"

A major challenge for any South African firm is limited infrastructure, both domestically and regionally. Within South Africa there is a widely recognized overreliance on road freight, due to a solid road network and an underinvested railway system, coupled with a port system struggling to meet rapid increases in demand. Across the broader region, the situation is worse.

One way that the issue can be addressed is by building key relationships in neighboring countries, which will then facilitate the funding of projects and initiatives to improve access to the region.

Although there are a number of logistics companies that are equipped to transport chemicals such as Wardens Cartage, Imperial Logistics, Central African Road Services, Turners Shipping and Infinite Group, Transnet remains South Africa's public freight company responsible for rail, pipeline, and seaport freight transit. "At present, because demand for bulk export capacity exceeds port handling capacity, the ports are regarded as a restrictive factor in the economy… We have invested and continue to invest large amounts of capital across the various divisions of Transnet, whether it is in the ports, rail, or pipelines to upgrade this country's infrastructure. A significant amount of the future capital spend is dedicated to upgrading and expanding port facilities in Richards Bay and Durban. The harbor entrance to Durban has been deepened and widened and Transnet is deepening and strengthening the berths to accommodate larger cranes so as to be able to service a new generation of very large container ships (VLCS)," says Don MacLean, general manager of the office of the chief executive of Transnet.

This investment in Transnet is part of the government's 4 trillion rand investment program over the next 15 years, which seeks to ease gridlock within the country and hopefully set an example for the rest of the continent to follow suit. "We need to make sure South Africa is well connected to the whole region in terms of transporting goods and exports… Other countries expect South Africa to lead the continent; our challenge now is to make sure all nations are on board with our growth path," states South Africa's Deputy Minister of Economic Development Hlengiwe Mkhize MP.


Dual ship loading at Transnet Port Terminals

For both manufacturers and distributors, South Africa's geographic location coupled with access to Africa's largest port makes it a seemingly obvious springboard into the surrounding region. However, as Brent Hean, CEO of Metmar Polychem, notes: "It is not easy because these markets are overrun by competitors from all over the world. Competition is sometimes even stronger north of the border than it is here."

As South African companies look to expand business abroad, opaque customs regimes and notoriously underinvested infrastructure create delays and drive up costs. Approximately 10% of Savannah Fine Chemicals' revenue comes from exports and, like other distributors in the market, the company would like to see its exports grow, however delivering their goods cost-effectively to customers difficult. "You can see how out-of-kilter things are by how much more you have to pay for the logistics than the goods themselves," says Stephen Mitchell, CEO of Savannah.

Both Junai Maharaj of Buckman and Paul Voorhout of Nalco agree that the raw materials shortage is another stumbling block. "One of the most important challenges is certainly the raw materials shortage provoked by the economic downturn in 2008. To add to that, many of our products are imported and the fluctuating exchange rates are another factor that we must cope with," says Maharaj.

TRAINING AND INNOVATION IN THE RAINBOW NATION

In order to address some of the challenges at home, South Africa's chemicals sector is actively taking a hands-on approach to help create the skills and resources a globally competitive industry demands. Chemical companies both large and small are innovatively addressing skill shortages, fostering entrepreneurship, and simultaneously developing world-class technology.

DEVELOPING THE SKILL BASE

To quote Nelson Mandela: "Education is the great engine of personal development. It is through education that the daughter of a peasant can become a doctor, that the son of a mine worker can become head of mines, that the child of a farm worker can become president of a great nation."

Sadly, a generation after the end of apartheid, South Africa's education system is not producing enough individuals with the capabilities necessary to become members of a competitive workforce. According to the World Economic Forum's Global Competitiveness Report 2012-2013, South Africa ranks a respectable 52nd of 144 countries, the highest in sub-Saharan Africa. However, imbedded in these rankings is South Africa's poorly performing primary education system, which ranks a dismal 132nd. Furthermore, although the country is home to some world-class universities, its higher education and training score ranks significantly below its competitiveness ranking, at 84th. This poor performance gives statistical credibility to a paradox that is pervasive to employers and government officials alike; the official unemployment rate of the country stands above 25%, but industry has issues finding semi-skilled and skilled labor. This is further compounded by the realities of the competitive global market for highly skilled labor contributing to a brain drain from the country's workforce.

Some within the chemicals sector have come to the conclusion that in order to obtain the properly skilled workforce that the industry and market requires, they must use their expertise to create it themselves. Chemical associations and, more interestingly, private firms across a variety of sectors are increasingly investing in in-house workforce training programs. In markets worldwide this is often accomplished through a nationwide industry body. One such body, Plastics South Africa, has provided such formal skills development courses since its establishment in 1975.

Other sectors within the South African chemicals industry are more fragmented, yet still experience the same need to train and educate not only workers in the chemicals industry, but also those workers without the proper skills and knowledge base to properly use their product offerings.

Local distributor, AMT Composites, is involved in supplying advanced composites primarily to the aerospace, marine, and manufacturing sectors. AMT's regular training seminars at their offices in Johannesburg, Cape Town, and Durban provide a necessary platform to train their customers on how to properly and efficiently use their products. As Jo Jacinto, director of AMT Composites, explains: "Because South Africa has traditionally had a very weak skills base, we have to bring in process technology to sell our products. Without such a strong understanding of how to process our products, AMT Composites would not be

The front entrance of Villa Crop Protection's training academy that will offer courses for skills development in the agricultural sector

half the company it is today. We are unique in the value we add through our education of customers."

In the agricultural sector, Villa Crop Protection is set to launch its own ambitious academy later this year. "The academy fills a huge void in the market, while at the same time this is also a branding exercise to help support our company," says managing director Dr. André Schreuder.

Villa Crop Protection's training academy is planning to provide 50 courses that will be open to everybody in the agriculture industry and interested in acquiring or refreshing skills.

In the adhesives and sealants sector, Netherlands-based distributor, Den Braven, and long-established South African producer Pratley both have established onsite training centers at their respective offices in order to ensure their products are used properly in the field. Given the skill shortage in the country's burgeoning construction sector, it is imperative sealants and adhesives are applied correctly in the field in order to not improperly sully the reputation of the products.

ENCOURAGING ENTREPRENEURSHIP

South Africa certainly has its challenges given high unemployment and crime rates and a less than stellar education system. However, South Africans must be judged beyond these challenges, as Den Braven's Averil Webbstock notes: "The people here are very entrepreneurial but they lack finance. If you could marry FDI and the South African people's work ethic and entrepreneurship, then South Africa could fly. If mentorship, coaching, guiding, and finance are provided, then anything is possible."

Developed in the 1990s, but growing substantially in the last decade, Sasol's ChemCity provides aspiring entrepreneurs with the necessary resources to create a bankable business related to the energy or chemicals industry. The concept incubates entrepreneurial businesses for approximately two years providing them with resources in technology development and innovation, business analysis and development, and investment and funding portfolios. However, as ChemCity managing director, Bridgitte Backman, explains, much of ChemCity's efforts are focused on mentorship: "While most South Africans think they are entrepreneurs, ChemCity believes the country does not have enough.

Safripol's manufacturing plant in Sasolsburg

Business development requires a good alignment of what we call the course, horse and jockey – in other words, the regulation, business concept and entrepreneur. We work very closely with government on various projects to make the course easier to run, but most of our time is actually spent on enabling the jockey, because entrepreneurship is really about the individual. Sometimes their skill-set matches their brilliant idea, sometimes not. The most difficult aspect of entrepreneurship is telling someone with a brilliant idea that they need a certain person with them to make it work."

Backman notes how ChemCity is actively expanding its scope in order to attract and create more entrepreneurs. In October 2012, eight lots were sold as part of the first phase of a development in Sasolburg to create a physical industrial park as part of ChemCity. Additionally, plans are in the works for a training academy at Sasol's Secunda site to offer nationally accredited courses to aspiring, yet often undereducated, entrepreneurs.

CONCLUSION

UNLOCKING THE "CANDY STORE OF OPPORTUNITY"

As the continent continues to develop economically and politically, how investors view South Africa will shape their attitudes of the continent's development as a whole. Laurent Langellier, sub-Saharan Africa director of Air Liquide has a positive outlook on how attitudes towards are changing: "People in the past did not believe in Africa's economic development, but this is beginning to change. Africa is a candy store of opportunity – with a mix of semi-stable and more risky investments, you just need to strike the right balance between risk and return. South Africa is still a good long-term safe choice."

As South Africa approaches two decades since the end of apartheid, the country's economy stands at a crucial moment. "The South African economy has partially matured and now finds itself at a crossroads… As with any new country, it has taken the South African government a while to settle and mature since the end of apartheid. Governments everywhere tend to be fairly slow and inert, but ultimately they need to produce results and South Africa is no different," says Joaquín Schoch of Safripol.

The glamour of hosting Africa's first World Cup and the excitement of South Africa's entry to the BRICS group has faded. Excitement and glamour now must be met with tangible results. The chemicals sector can enable these results. As a more developed economy, South Africa should not be expected to experience the same growth rates as some of its neighbors, however policy makers, business leaders, and labor groups must work together to deliver stability in the eyes of international investors.

Patrick Earlam of Deloitte believes that despite the challenges present in the country, South Africa will persevere: "Clearly our image has been damaged as an investment destination [due to recent labor unrest.] But we have been there before and survived…. South Africa has had to overcome many fundamental issues and in so doing has developed into the nation it is today. We were written off many years ago, but we continue to keep going strong. I believe the resilience of this nation will carry us through."