



Regional Focus

A spotlight on the chemical and pharmaceutical industry in Germany, Switzerland, and Austria

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Chemical sales excellence, Pharma marketing excellence, and supplier – distributor partnership

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THE NEWSPAPER FOR THE
CHEMICAL AND
LIFE SCIENCE MARKETS

A Leader Once Again

With a Growth-boosting Initiative, Clariant Maps Out its Return to Specialty Chemicals Toplist

Back On the Growth Track

Even if not quite 20 years old, Swiss-based specialty chemicals producer Clariant can nevertheless look back on an eventful history. With years of extensive restructuring, reorganization, portfolio realignment and several changes in top management now under its belt, the company is moving into a new development phase. At the company's recently held annual Capital Markets & Media Day, CEO Hariolf Kottmann highlighted his forward strategy.

When Hariolf Kottmann took over as CEO of Clariant on October 1, 2008, the company, though by that time 13 years old, had not yet really found its feet. Well into the second decade of existence, it found itself, like a gangly adolescent, still needing more time to position itself for future growth. In part, the reasons lay in its somewhat unusual history.

The Evolution of Clariant

It is difficult enough to carve a fully functional standalone unit out of a tradition-steeped company but Clariant had to face the challenge twice. Just two years after its first founding in 1995, the Swiss specialty chemicals player had to reinvent itself, taking in the specialty portfolio business of the now defunct German conglomerate Hoechst. The new businesses picked up in Frankfurt were more than twice the size of those at home in Muttenz, near Basel and the German border.

Without having had time to deal with the cultural identity crisis this created – was it Swiss or was it German – Clariant was thrust headlong into the chemical industry's latest fashion trend – the rush to embrace life sciences. Hoping to participate in the growth prospects of this specialty focus, as they were perceived in the late 1990s, the fledgling firm stepped quickly into line with its competitors, marching straight into the mined field of fine chemicals M&A.

With every intention of becoming a major supplier to the lucrative pharmaceutical market, in 2000 Clariant bought UK-based fine chemicals producer BTP for \$1.8 billion. As was the case for most companies that followed the fad, the overpriced acquisition never really paid off. By 2003, the Swiss player was already licking its wounds.

Hit broadside by crisis, the company launched its first strategic realignment initiative, shedding assets that included traditional businesses of its predecessors, including polyvinyl alcohol and polyvinyl butyral, cellulose ethers, electronic materials and monochloroacetic acid. To reduce the debt burden stemming from its ill-timed foray into life sciences, Clariant was even forced to unload even the former BTP activities, by then called Pharmaceutical Fine Chemicals.

Fast-forward to 2008. With Hariolf Kottmann – who began his industry career at Hoechst in 1985 – at the helm, Clariant once again set out to reduce its debt burden and cost base, refocus its portfolio, and further expand on its core specialty chemicals businesses. In due course, the company was back on track toward its goal but work was still needed to become more cost-competitive. This required a clear, communicative strategy. A chemist by training and a manager with hands-on experience, Kottmann brought with him the right background to steer the company toward profitability.

For Clariant to pull low-growth businesses up to scratch, the new CEO understood that he would have to put the specialty chemicals producer's portfolio to the test. Under his leadership, several bold steps were taken during the five-year-period up to 2013. The company's biggest move after absorbing the Hoechst activities was the 2011 acquisition of German specialty chemicals player Süd-Chemie. In announcing the buy, Kottmann said management was convinced that the venerable Munich-based firm with a broad portfolio encompassing catalysts, rare earths, resins, additives and packaging was "the right strategic fit for Clariant." Its high growth businesses provided access to new attractive market segments and lessened cyclicality.

The Süd-Chemie coup, pulled off amid stiff competition from rivals such as Honeywell and Mitsui, was a "powerful transformational stepping stone for the new focus," as Kottmann recalls. "It created great potential for the future."

Another watershed for Clariant, a year later, was the divestment of five traditional businesses: Textile Chemicals, Paper Specialties, Emulsions, Detergents & Intermediates, and Leather Services – activities that generated revenues of almost 1.75 billion Swiss francs in 2012.

"Additional, smaller divestments allowed us to eliminate margin-diluting businesses and bolt-out acquisitions helped us gain access to promising technologies or regions where we were underrepresented," the CEO says.

Positioning for a Brighter Future

With these moves behind it, Clariant has now completed the divestment of its mature and margin-diluting



The Clariant Innovation Center (CIC) in Frankfurt, Germany, inaugurated in October 2013, provides Clariant with an ultra-modern research center and flagship for its global research activities.



Dr. Hariolf Kottmann, CEO and Chairman of the Executive Committee, Clariant

businesses and is looking toward a brighter future. "The portfolio we now have is the one we will count on to drive growth," Kottmann says. Interestingly only about 2% of current business derives from the original Sandoz activities.

Midway through 2014, the Swiss company can claim a well-balanced product slate, a sound financial position and a competitive cost basis. It is organized into four business areas (Care Chemicals, Catalysis & Energy,

Natural Resources, and Plastics & Coatings), with attractive end-user markets that management believes offer above-average growth rates.

"Based on the strength of our current organization, profitability has consistently increased over the past four years," Kottmann stresses. "Between 2009 and 2013, most of our continuing businesses achieved some top-line growth, and overall profitability nearly doubled."

Sales from continuing operations generated revenues of about 6.1 billion Swiss francs in 2013. The EBITDA margin rose from 12.7% in 2010 to 14.1% and is expected to exceed that figure in 2014. Nevertheless, the Clariant chief acknowledges, "we are not yet where we want to be in terms of sales growth. There

is still a significant gap to the target we have set for 2015 and beyond."

For 2014, clear priorities have been set, with the emphasis on performance, growth and innovation. "From a competitive cost position, we will further increase our profitability and significantly invest to capture short-term growth opportunities and develop our mid- to long-term pipeline," Kottmann asserts.

Along with concentrating on growth businesses, Clariant's geo-

The current portfolio is the portfolio we count on for further growth in the foreseeable future.

graphical strategy will have equal weight. In addition to China, India, South East Asia, and South America, another high strategic priority is North America – due in particular to the opportunities arising from shale gas.

Looking forward from 2015, the goal is to increase Clariant's EBITDA margin to 16-19%, a level some of the Swiss company's peers – such as German rival Evonik – have already reached. The margin increase, the German-born executive says, will be achieved in part through cost control and through growth in businesses promising above-average returns.

Kottmann's ultimate vision for the future is to move the company back to the top of the specialty chemicals markets, where analysts positioned it in the early days after the split from Sandoz and the takeover of the Hoechst activities. Along with increasing profitability, seizing growth opportunities and optimizing the company's portfolio, management is firmly focused on fostering R&D and innovation.

Innovation is a Priority

Clariant's research efforts are focused on three megatrends, which are written large in its growth strategy: Environment Protection, Globalization & Urbanization, and

Resources & Energy. To meet management's targets, the plan is to intelligently link the company's global technology platforms in chemistry and materials, biotechnology, catalysis, and process technology. "These are areas in which Kottmann says "we have established a solid foundation of expertise."

To improve its basis for innovation and achieve critical mass, the company has concentrated R&D activities in the new Clariant Innovation Center (CIC) at the Höchst industrial park in Frankfurt, Germany, which is also its largest production site. The CIC, planned to be the fertile basis for the innovation initiative, will be flanked by another 50 decentralized technical application labs worldwide.

Spending on R&D, which was relatively minimal five years ago, has been beefed up again and is now close to 200 million Swiss francs annually. Funds are being channeled into growth opportunities in markets with perspectives for the future as well as strong growth rates and businesses where Clariant has competitive market positions and significant pricing power.

To assure that sufficient monies are allocated to the most value-creating activities, management has analyzed the company's 45 businesses with an eye to their market position and industry attractiveness. "We have identified key growth areas such as Catalysts and Personal Care to receive the lion's share of investment in developing new products and solutions," Kottmann says.

Other areas regarded as having sufficient growth potential to receive funding are the Crop Solutions, Oil Services, Mining Solutions and Bio-based Chemicals units. Some product groups regarded as cash cows will not see significant spending. The CEO hints that a few businesses, which are no longer as attractive to Clariant, or where it has poor competitive positions, may not only be excluded from funding but also could be candidates for divestment.

Dede Williams and
Michael Reubold

NEWSFLOW

M&A-News:

AbbVie has won the race to acquire Shire in its fifth attempt, clinching the deal for around \$54.8 billion.

Albemarle has announced plans to buy specialty chemicals compatriot Rockwood for \$6.2 billion.

Mylan plans to acquire Abbott's branded specialty and generics business in developed markets outside the US for \$5.3 billion.

Roche plans to pay up to \$1.73 billion to buy US biotech company Seragon Pharmaceuticals.

Merck KGaA acquired all of the capital of its cooperation partner, Dutch smart window technology start-up Peert+.

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Companies:

BASF sells its 50% stake in the styrenics joint venture Styrolution to its partner Ineos for €1.1 billion.

Cytec has signed a strategic cooperation agreement with Dralon to develop large-tow industrial grade carbon fiber.

Bayer MaterialScience (BMS) further consolidates its polycarbonate business and closes its sheet production site in Darmstadt, Germany.

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Investments:

Celanese plans to expand manufacturing capability at its Suzano, Brazil, site by 2015 to include Celstran long fiber-reinforced thermoplastics.

Evonik and its Chinese partner Jiangsu Zhongneng Polysilicon plan to form a 60:40 joint venture to produce fumed silica and ultra-pure silicon tetrachloride compounds in China.

Esso Belgium, a division of Exxon-Mobil Petroleum & Chemical, plans to invest over \$1 billion for a new coker unit at its Antwerp refinery.

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Pharma:

Bayer HealthCare said it plans to keep consumer brands it picked up in its \$14 billion buy of US Merck&Co's non-prescription drugs business in May.

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DECISIVE INFORMATION

THE PORTAL AND NEWSPAPER FOR THE EUROPEAN CHEMICALS AND PHARMACEUTICAL MARKETS

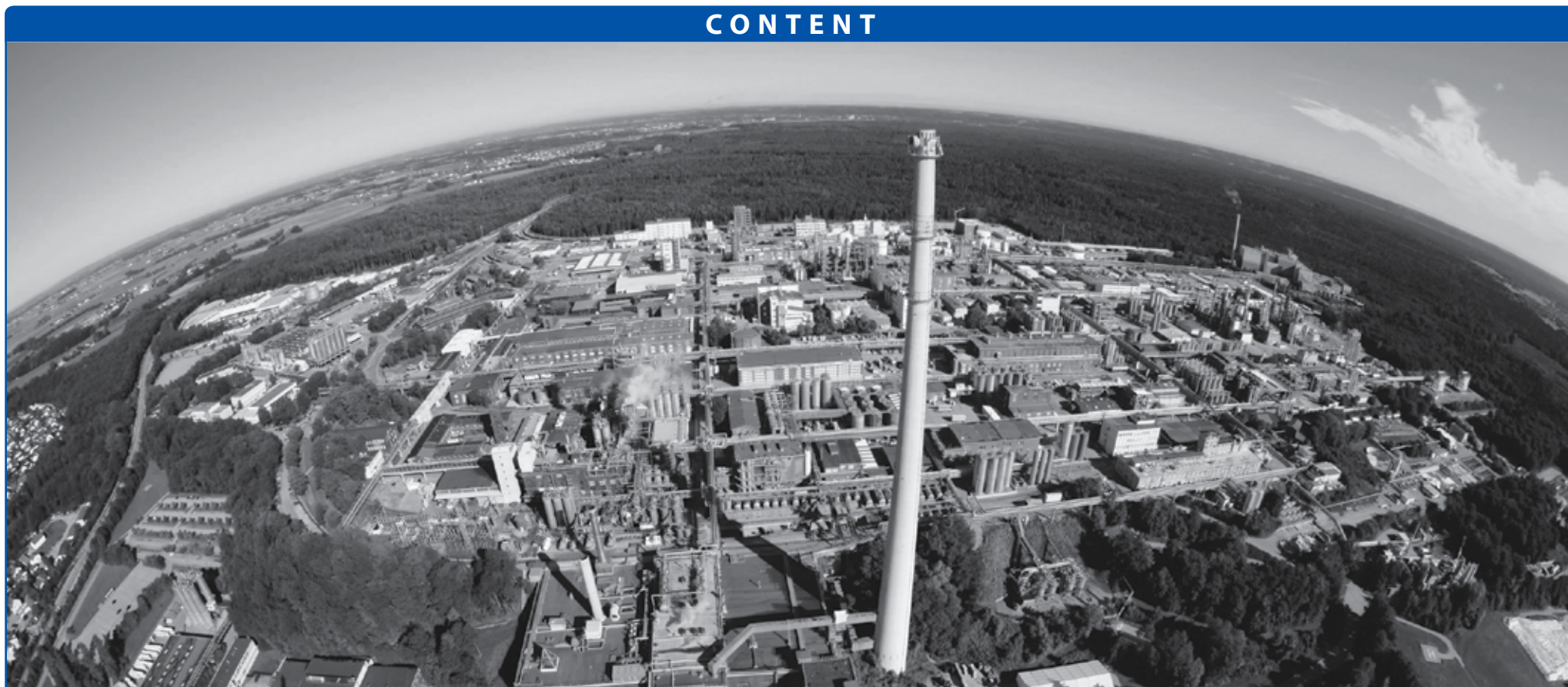


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Editorial

Cutting-Edge Information

Executives and experts in the global chemical and pharmaceutical industry at locations all over the world rely on CHEManager International as a credible source for essential information. Information they need to manage their businesses and to develop their strategies.

In this issue we feature the latest industry news plus articles providing valuable information on markets and management strategies. For instance, read the latest M&A news on this double-page spread.

Following on pages 4 and 5 you find market reports on Eastern Europe and China, respectively. Our Regional Special in this issue on pages 6 to 8 focuses on the GSA region - Germany, Switzerland and Austria - the widely recognized economic powerhouse of Europe. Read on page 7 how the German chemical industry thinks about the US-European trade agreement - Transatlantic Trade and Investment Partnership or TTIP - and how the German chemical business developed in the first half of this year.

In our Production section an article on Big Data explains how the use of data and analytical processes can contribute immensely to the efficiency in production processes and provide companies with a competitive edge to advance innovation. Another article focuses on the chlor-alkali industry and recent developments in state-of-the-art production technology.

In a newly created section - themed Strategy & Management - CHEManager International will regularly focus on topics relevant for business leaders. In this issue we provide information on the significance of marketing and sales excellence as well as on essential factors that are required to create a successful distributor-supplier relationship.

As usual, CHEManager International keeps you up to date on all the latest industry news. As the new editor-in-chief, I am excited to work with our authors and industry partners on all the topics relevant to the chemical and pharmaceutical industry.

*Dr. Ralf Kempf,
Editor-in-chief,
CHEManager International*



**Ralf Kempf, Editor-in-chief,
CHEManager International**

Carbon Black Producer Orion Files for IPO

Backed by private equity firms Triton Capital and Rhone Group, each of which owns 41.83% of the company through Kinove Holdings, Luxembourg-based carbon black producer Orion Engineered Carbons has filed for a US initial public offering that could raise as much as to \$432 million and value the company at up to \$1.36 billion.

Kinove, which own 89.6% of Orion, will sell 18 million common shares, expected to be priced at \$21-24 each. The company produces performance additives for coatings,

polymers, printing, tires and mechanical rubber goods and generates most of its sales in Europe, North America and Asia.

Orion was founded in July 2011, when Triton and Rhone acquired the Evonik carbon black operations in a transaction valued at over €900 million. Evonik predecessor Degussa once was traditionally one of the leading producers of carbon black.

Kinove said it intends to use the proceeds from its sale of common shares to repay debt. (dw)

ICL and AkzoNobel Sign MoU on Minerals JV

Specialty minerals producer ICL and AkzoNobel have signed a non-binding memorandum of understanding (MoU) to collaborate on long-term production and marketing of vacuum salt and white potash.

The joint venture agreement calls for production and marketing of 1.5 million t/y of high purity vacuum salt, as well as 50,000 t/y of white potash utilizing best-in-class available technology.

The high purity vacuum salt, manufactured from a salt byproduct of potash mining and used in a variety of chemical applications as well as in specialty food and feed grades, will be produced by a joint venture between AkzoNobel Chemicals International and ICL Iberia and marketed by AkzoNobel.

According to the MOU, AkzoNobel will sign an off-take agreement with the JV for all of the vacuum salt. The white potash will be produced and marketed by ICL Iberia.

ICL is currently building a production facility for the two products at its mining facility located in the Catalonia region of Spain, as part of a previously announced, €170 million project to increase its potash mining and production capacity in Spain.

The prospective partners hope to benefit from strong synergies including ICL's extensive mining and production capabilities in Spain and AkzoNobel's experience and technical know-how in producing the salt, along with the Dutch company's sales and marketing networks. (dw)

BASF and Alpek Restructure Polioles JV, Swap Assets

BASF and Mexico's Alpek have agreed to restructure their 50:50 Mexican joint venture Polioles. Under the terms of the transaction set to close in 2015, BASF will acquire the JV's polyurethane assets, including unidentified "selected assets" of the Lerma, Mexico, facility as well as marketing and selling rights for polyurethane systems, the isocyanates MDI and TDI, and polyols.

In exchange, Alpek will take BASF's EPS business operations in North and South America. The deal encompasses Polioles' Altamir plant, along with production facilities for EPS at Guaratinguetá, Brazil and General Logos, Argentina, along with all sales and distribution channels in the Americas. It does not include BASF's Neopor gray EPS grade, which is produced in Germany and Korea.

Altogether, Alpek is picking up 230,000 t/y of EPS capability, including the 165,000 t/y produced at Altamira.

BASF said it plans to focus its EPS in future business on the strategic markets of Europe and Asia, as well as on Neopor. Alpek CEO José de Jesús Valdez said the arrangement represents "an attractive opportunity" for his company to expand its EPS footprint across the Americas and consolidate its plastics and chemicals portfolio.

Mexico's largest petrochemical company and Latin America's second largest with \$7 billion, Alpek is a leading producer of PTA and PET. It operates the largest EPS plant in the Americas and one of the largest polypropylene plants in North America. It is also Mexico's sole producer of caprolactam. (dw)

Centroflora Buys Boehringer Phytochemical API Portfolio

Centroflora CMS, a specialist in Active Pharmaceutical Ingredients (APIs), has acquired manufacturing assets for a group of phytochemical APIs from German drugmaker Boehringer Ingelheim.

The Brazilian company also has signed a multi-year exclusive agreement with Boehringer to supply the market with phytochemical APIs. The acquired portfolio includes atropine and atropine sulfate, digoxin and digoxin micron, along with metildigoxin, homatropine methylb-

romide, homatropine hydrobromide and dihydroergotamine mesylate.

Centroflora CMS will also distribute its own pilocarpine APIs, including pilocarpine hydrochloride and pilocarpine Nitrate, to more than 100 pharmaceutical companies in the US, Europe, South America, Asia, Africa and Australia. Andrew Badrot, CEO of Centroflora, said the company plans to immediately provide "a well-defined roadmap for the continuous supply of phytochemical APIs to the marketplace." (dw)

AbbVie Wins Shire Prize for Nearly \$55 Billion

In its fifth attempt to buy the company, AbbVie, a recent spin-off of US drugmaker Abbott Laboratories, has won the race to acquire European rival Shire, clinching the deal for around \$54.8 billion. In terms of superlatives, it is the biggest pharmaceutical takeover so far this year and the sixth largest ever.

The cash-and-stock offer values Shire at €53.19 per share (about \$91), a premium of more than 50% against the price in May before AbbVie's initial approach became evident. After the deal closes, Shire shareholders are expected to own about 25% of the combined company.

Combining the two drugmakers would create one of the world's 50 largest players, with nearly \$25 billion in annual sales, around 30,000 employees and a market value of more than \$137 billion. Adding Shire's portfolio, which includes the attention deficit disorder drug Adderall, will allow AbbVie to widen its product offerings.

Under the process known as inversion, the acquisition will also allow the company now based near Chicago, to reincorporate in in Jersey, where Shire is incorporated. However, it would still be run from AbbVie's Chicago headquarters and listed on the New York Stock Exchange.



"By shifting the legal headquarters of the newly-combined entity to the UK, the AbbVie could lower its annual tax expense by as much as 7%, which would have equated to increased earnings of more than \$350 million in 2013, healthcare consultancy GlobalData says.

Even after accounting for the impact of the arrival of biosimilars as competition for the arthritis drug, Humira, which will lose patent protection in 2016, a tax gain of this magnitude would translate into more than \$5 billion in additional free cash flows from Humira alone over the next 15 years, the consultants believe.

"Dampening the impact of biosimilars would see the tax savings on projected cash flows from Humira jump even further to around \$8 billion," GlobalData adds. The consultants also forecast a 6% compound annual growth rate for the new company between 2014 and 2019, which they see as generating total revenue of \$33.4 billion per year by 2019.

Following the news of the Abbott spin-off's successful bid, US Treasury Secretary Jacob J. Lew sent letters to senior members of Congress, encouraging them to pass legislation halting inversions, the New York Times reported. The proposal would be retroactive, potentially thwarting AbbVie's ability to reincorporate in the UK. (dw)

Albemarle to Buy Rockwood for \$6.2 Billion

In a deal aimed at tapping fast-growing demand for lithium products such as batteries, US fine chemical producer Albemarle, headquartered at Baton Rouge, Louisiana, has announced plans to buy compatriot Rockwood Holdings for \$6.2 billion.

Shareholders of Rockwood, which is based in Princeton, New Jersey, will receive \$50.65 in cash and 0.4803 Albemarle shares for each share they own. Albemarle said it has secured financing of \$3.7 billion from BofA Merrill Lynch to fund the cash portion of the transaction set to close in the first quarter of 2015.

The Louisiana company expects the acquisition to result in some \$100 million in annual savings by 2016 by eliminating duplicate costs, through increased buying power and the operational economies of scale. It also is expected to increase cash earnings per share in the first year and allow debt reduction.

Rockwood is one of four companies – including Talison, FMC Corp.



Luke Kissam, CEO, Albemarle

and SQM – that control about 90% of the market for lithium. Demand for the metal will grow up to three times faster than the overall economy, Albemarle's CEO Luther C. (Luke) Kissam told investors.

The merged chemical producer, of which Albemarle shareholders will hold 70%, Rockwood shareholders 30%, will have a strong presence across several high-margin lithium businesses. It will supply catalysts to refineries, bromine for use in offshore drilling and emission control and surface treatment products to the automobile and aerospace industries.

"All four of the combined company's businesses have high margins, strong competitive positions, and attractive long-term growth," Kissam said. Lithium and Albemarle's bromine business, catalysts and surface treatment have similar technologies that will help drive additional growth, he noted.

With the Rockwood takeover, Albemarle will also gain access to raw materials assets in Chile's Atacama Desert.

Under former CEO Seifi Ghasemi, who moved to Air Products & Chemicals as chairman and CEO on July 1, Rockwood sold its rheology business to German chemical producer Altana and agreed to sell its titanium-dioxide businesses to Huntsman, both moves designed to sharpen the focus on lithium and metal surface treatments. EU competition authorities are still investigating the latter deal, but Rockwood said the outcome will not influence the merger plans. (dw)

Koch Brothers' Buy of PetroLogistics Wrapped Up

Flint Hills Resources, part of the empire of Wichita, Kansas-based Koch Industries, has completed the \$2.1 billion all-cash acquisition of Houston, Texas-based PetroLogis-

tics LP and its general partner PetroLogistics GP. The deal marks the largest acquisition in the history of the US company owned by the politically active Koch Brothers, Da-

vid and Charles, two of the world's richest men. It is also the largest acquisition since the brothers bought Huntsman's US commodity chemical business in 2007. (dw)

German PVC Producer Vestolit May Be Up for Grabs Again

It appears that Marl, Germany-based PVC producer Vestolit may be up for grabs again.

Private equity investor Strategic Value Partners (SVP) Global is said to be looking to sell the company for around \$407 million (around €300 million).

SVP acquired the PVC producer in 2006 from a consortium led by private investor Candover Partners for a sum mooted to be in the triple-digit million euro range. At the time, potential bidders told German media that Candover was looking for €300-400 million.

A year later, in 2007, SVP was rumored to be seeking to end its foray into PVC, but was stopped by the economic crisis that engulfed the financial markets in 2008 and caused a credit crunch in the industrial sector.

Vestolit, which has sales of €500 million and EBITDA of around €40

million, has capacity to produce 400,000 t/y of PVC in its back-integrated sole production facility plant at Marl.

The Marl company was successively part of the now defunct chemical producers Hüls and Degussa-Hüls. In 1999, shortly before their merger, Hüls and Degussa considered combining Vestolit with Ismaning, Germany-based Vinnolit, a spin-off of the former Hoechst group and its erstwhile 50% subsidiary Wacker Chemie. Ultimately, the two businesses were sold to separate investors.

Speculation about a possible buyer for Vestolit has been rampant following a leak to the news agency Reuters. As possible bidders, chemical producers such as Brazil's Braskem – which has repeatedly expressed interest in a PVC investment – and Axiall, the commodity chemicals business resulting from last year's

merger of US players Georgia Gulf and PPG, have been mentioned.

Another buyer whose name is in circulation is US petrochemical producer Westlake Chemical, which earlier this year bought Vinnolit for €490 million from private-equity group Advent International. Some observers, however, believe Westlake may first want to digest its earlier purchase.

Vinnolit has capacity to produce 780,000 t/y of PVC as well as 665,000 t/y of VCM at six plants in Germany and the UK, including two picked up from Ineos in 2007.

There may be more PVC assets up for grabs currently than at any point in recent memory. Along with Vestolit, Ineos and Solvay have had to put more than 900,000 t/y of capacity in the Netherlands, France and Germany on the selling block in exchange for EU approval of their new joint venture, Inovyn. (dw)

AkzoNobel Selling Paper Chemicals Business to Kemira

AkzoNobel plans to sell its global paper chemicals business to Finnish chemical producer Kemira for €153 million. The unit that belongs to Pulp and Performance Chemicals business reported sales of €243 million in 2013.

CEO Ton Büchner said the intended sale follows a strategic review of the AkzoNobel portfolio with an eye to focusing on leading positions.

The Pulp Bleaching business, with its Eka trade name, and the Colloidal Silica business are regarded as core and are not up for sale.

Werner Fuhrmann, the Dutch group's executive committee member responsible for Specialty Chemicals, said the Pulp and Performance Chemicals business will continue to focus on global leadership positions

in pulp bleaching, colloidal silica and expandable microspheres.

Akzo Nobel plans to continue toll manufacture of certain products for Kemira and also will sign a distribution agreement with the buyer for the paper-related part of Colloidal Silica.

The transaction is expected to be completed by the end of 2014, subject to all clearances. (dw)

Schulman Completes Ferro Specialty Plastics Assets Buy

US plastics compounder and distributor A. Schulman has completed its acquisition of a "selected majority" of Ferro's Specialty Plastics assets for \$91 million in cash.

The deal announced includes four facilities in the US and Spain. Schulman expects it to deliver \$5.5 million in synergies within 12 to 18 months

following the close of the transaction, driven primarily by sourcing activities and plant efficiency actions.

Ferro's Specialty Plastics business is a global supplier of custom engineered plastic compounds, colorants, and liquid coatings with a broad portfolio aimed at end-markets including packaging, transpor-

tation, construction, appliances and agriculture.

Schulman CEO Joseph M. Gingo said the acquisition is an excellent strategic complement to the company's existing capabilities and reflects its ongoing effort to expand its product offerings and geographic reach in target markets. (dw)

Allergan to Cut 13% of Jobs in Fight Against Valeant

US pharmaceutical producer Allergan, fighting a hostile bid from Quebec-based rival Valeant, has said it plans to cut 1,500 job or 13% of its workforce as part of a restructuring effort aimed at boosting profits over the next six years.

The drugmaker whose best known product is the wrinkle treatment Botox said the cost reductions

are intended to convince investors that it is a better value as a standalone company and would help increase earnings more than 20% annually between 2014 and 2019.

Valeant and the Pershing Square Capital Management vehicle of activist shareholder Bill Ackman made a \$52 billion hostile offer for Allergan in April, but the company has

said repeatedly the deal is not in the best interest of shareholders.

The restructuring, which is projected to create savings of \$475 million in 2015, would also eliminate about 250 vacant positions. Allergan is also weighing a number of strategic options to counter Valeant, including stock buybacks and acquisitions. (dw)

Chemical Distributor Univar Seeks IPO

Univar, North America's largest chemical distributor, is pursuing a stock market launch, with Deutsche Bank and Goldman Sachs as the lead underwriters.

The company based in the US state of Illinois, whose stakeholders include private equity firms CVC Capital Partners and Clayton, Dubilier & Rice, has 700 distribution

facilities in more than 150 countries. It sources chemicals from over 8,800 producers worldwide, including Dow, ExxonMobil and Eastman.

CVC took Univar private in 2007 for \$2.1 billion. In 2010, Clayton, Dubilier & Rice acquired a 42.5%, placing in parity with CVC, with the company's management owning the

rest. Univar has set an initial target of up to \$100 million for the ipo but has not yet disclosed how many shares it plans to sell or on which exchange it intends to list its shares. In April of this year, sources told the news agency Reuters the company was exploring an ipo worth more than \$6 billion. (dw)

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Potential in Eastern Europe

The CEE & CIS Region Offers Benefits for API Manufacturing

Over the past five years, emerging markets have experienced some of the highest pharmaceutical market growth rates, a trend that is expected to continue. Central Eastern Europe (CEE) and the Commonwealth of Independent States (CIS) countries that, combined, make up Eastern Europe, offer a mix of developed as well as emerging opportunities for many companies looking to expand their global presence.

These countries also provide a cheaper alternative than their western EU counterparts for clinical trials and API manufacturing, while following a similarly defined regulatory pathway. Although the growth potential differs between regions like CEE and nations in the CIS, investment from outside the region is becoming more frequent, thereby allowing companies to gain access to new distribution channels and patient populations that favor branded generic medicines.

CEE versus CIS

Countries that make up the CEE are expected to have limited market growth in the coming years, but the highest rates will most likely come from Romania, which is expected to have a strong market with a compound annual growth rate (CAGR) of 6% in pharmaceutical sales growth. Hungary and Poland will have the lowest expected growth with a 2%-4% increase in pharmaceutical sales. Lastly, the Baltic States will be expected to round out the middle at an estimated increase of 4%-5% growth in pharmaceutical sales.

In terms of manufacturing, the region offers strong biopharmaceutical capabilities in biotech and

vaccine production along with a talented pool of chemists due to its extensive history of research that stems from the Cold War. Among countries in the region, Poland and Hungary in particular are looking to expand upon key areas in genomic and preventative medicine and protein engineering by increasing the number of biotech cluster cooperatives, funding and links to academia.

The CIS nations, along with Ukraine, are expected to have the highest growth rates, with a CAGR in pharmaceutical sales at roughly 8%-9%, but the risk associated may prove to be a deterrent for parties interested in these countries. The Russian devaluation of the ruble and Ukraine's hryvnia could increase if ongoing tensions further escalate. It could also increase the cost of imports into these regions and further drive up prices, hindering foreign interest to set up local production.

Some of the most prominent and growing therapeutic areas in the region include oncology, diabetes, antibiotics, as well as the vitamins and minerals segment for many of the CIS countries. In contrast, the CEE will rely less on some of the consumer over-the-counter (OTC) areas but have some notable crossovers as interest in specialty drugs, oncology, diabetes, and asthma/chronic obstructive pulmonary disease medications will continue to increase.

While these countries may have fewer active pharmaceutical ingredient (API) manufacturers than India and China, they do have established companies like Zentiva, Polpharma, Gedeon Richter, Teva's Croatian arm Pliva, and Krka, among others, that are able to supply their markets and others with generics. According to Thomson Reuters Newport Premium, the Czech Republic and Poland have the highest number of companies within Eastern Europe with significant experience supplying API into



regulated markets. Although Ukraine has a high number of total API manufacturers, many are designated as local companies supplying to their local and/or other less-regulated markets, as seen in the Figure below.

Quality Of Medicines

Variations in how good manufacturing practices (GMP) are interpreted and implemented are important to note, as they may not be the same among this diverse set of nations. However, strong foundations like the Falsified Medicines Directive (FMD), and external organizations, like the Pharmaceutical Inspection Convention and Pharmaceutical Inspection Co-operation Scheme (PIC/S), will further promote quality API production and harmonization in many regions.

Many of the EU member states now require a written confirmation from the country of origin's authorized regulatory agency to ensure that API imports meet EU or equivalent GMP standards. Along with this, last year Poland signed a cooperation agreement to share GMP inspection outcomes with the FDA. Furthermore, the Czech Republic has seen an increase in local manufacturer inspections, which resulted in their State Institute of Drug Control suspending a marketing authorization after a non-compliance report was issued in April.

Recent legislative initiatives in Hungary have shown an increased focus on quality. Newly passed regulations allow unannounced

inspections for monitoring the quality of medicines, as well as a new requirement for authorization holders to keep a minimum stock of certain medications deemed essential to mitigate shortages. In Kazakhstan, even, the State Program of Forced Industrial-Innovative Development is making the updates needed for facilities to adhere to EU GMP mandatory by the end of 2014. This may get postponed however, as Russia has had to extend its locally made API GMP deadline out until 2016.

Recent Investments and Their Implications

Investments into these regions usually take shape in the form of foreign multinationals partnering with local distributors or active ingredient manufacturers (Table 1). This is to manufacture the API, commercial-

ize, or license products that are still patented in the US or the rest of Europe. This practice also takes advantage of the regional distribution channels that are already in place. Countries like Lithuania, Ukraine and Belarus provide gateways between Western Europe and Russia that are optimal for securing supply chains between the regions.

Lupin, Dr. Reddy's, Glenmark and Ranbaxy were some of the first Indian companies to pursue entry into the Ukraine and the CIS, and all hold strong positions in these regions. Other Indian companies looking to get more involved in these markets include Macleods and Cadila Pharmaceuticals. Having a local presence can be utilized to try to circumvent any protectionist measures, as well as make tech transfers and registration processes run more seamlessly. There is also considerable

importance for Indian companies, including Cipla and Hetero, who have acquired or partnered with local distributors and chemical producers and have already funneled money into the region. For example, Cipla acquired Croatian-based Celeris d.o.o., while Hetero has a joint venture with Russian Makiz Pharma for the tech transfer and API production of its anti-retroviral product suite.

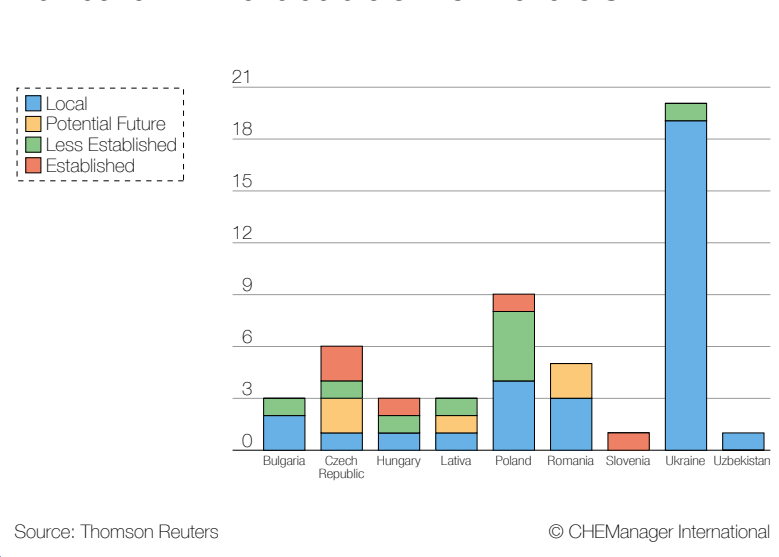
Using the skills of local talent at a cheaper cost than their Western counterparts, biopharma parks are getting attention in many of the CEE and CIS nations — including in Debrecen, Hungary, where Teva and Gedeon Richter have set up facilities. There is also an ongoing effort between Lithuania and India to develop a shared park in Lithuania's free economic zone at a plant that will be EU GMP-compliant. This can be done to encourage partnerships, licensing strategies, and shared resources needed to carry out R&D.

However, the potential interest in investing in these countries is juxtaposed by companies looking to also exit these markets. GSK announced it had a few curious buyers for its Romanian plant in Brasov, only to announce later that it would be closing the plant. The driving factors surrounding entry into the CEE and CIS markets are complex, and depending on future growth and generic penetration, the pursuit of these markets could sway in either direction, but the region does offer valuable benefits for API and generic medicine production.

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Number of API Manufacturers in CEE and CIS



Source: Thomson Reuters

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BASF Inaugurates Plant for Mobile Emissions Catalysts in Poland

BASF has inaugurated its new production plant for mobile emissions catalysts in Sroda Slaska, a Special Economic Zone near Wroclaw, Poland.

The facility, the German group's largest emissions catalysts plant in Europe, was built at a total cost of €150 million. Construction of the new 40,000 m² manufacturing facility began in late 2012.

The plant began production trials in April 2014, and started up two emissions catalysts manufacturing lines in June, with an initial employee base of 100.

Once all ten planned light duty and heavy duty catalysts production lines are operating at full capacity by 2016, BASF expects to employ more than 400 people at the site.

Emissions catalysts produced at the Polish site will be used by manufacturers of light duty gasoline ve-

hicles and light and heavy duty diesel vehicles to meet more stringent Euro 6/VI emissions regulations.

"The launch of this new production plant provides a vital addition to our global manufacturing network for innovative automotive emissions control technologies," said Kenneth Lane, President of BASF's Catalysts division.

Among the advanced technologies to be produced at the facility, according to BASF, are Selective Catalytic Reduction (SCR) systems, cutting-edge SCR on Filter (SCRoF) solutions and branded ozone destruction catalysts for automotive applications.

"Due to its attractive location and its positive economic development, Poland is an attractive place for BASF to invest," said Dr. Joachim Meyer, Head of BASF Business Center Europe Central. (dw)

UK Government Guarantees Ineos Grangemouth Bonds

The UK Government has given a £230 million loan guarantee to secure the future of Grangemouth in a move that is being seen as highly political, as well as economic, just two months before the Scottish independence referendum.

The Treasury announced that Ineos, the owners of the Falkirk-based petrochemicals plant, had won one of the few loans under the UK Guarantee Scheme, designed by the Coalition to back its plans to unleash £375 billion of infrastructure projects.

The deal, which will secure thousands of Scottish jobs, will allow Ineos to raise Government-backed debt financing that will be used to fund the construction of the biggest ethane tank in Europe.

Jim Ratcliffe, the chairman of Ineos, who threatened to close the plant last year amid an industrial

dispute, said the tank was vital to allow the company to import cheap American shale gas which will make the plant economically viable.

"Our ability to import shale gas underpins the future of manufacturing at Grangemouth and across many businesses in Scotland," he said. "It is a vital step towards preserving the long term future of the Grangemouth site and those businesses that depend upon its continued presence in Scotland."

George Osborne said the guarantee was part of the Government's plan to "equip the whole country with the infrastructure it needs to compete."

Ineos has already launched a £300 million investment program designed to keep Grangemouth open beyond 2017 after winning a bitter industrial dispute last October which nearly closed the plant. (dw)

Strike Threatened at Eni to Protest Refinery Closures

Employees of almost all units of Italian olefins and polyolefins giant Eni have threatened to shut down all of the company's Italian production units as well as commercial, administrative and other offices in a one-day strike on July 29.

The strike is intended to protest recently broached plans to permanently close or convert some of the company's refineries.

Eni's new chairman, Claudio Descalzi, recently told the workforce of plastics subsidiary Versalis that potential closures or downsizing of the refinery sites at Gela, Taranto, Livorno, Porto Marghera and Priolo could cost up to 6,000 jobs.

On July 7-8, Italian trade unions held a two-day strike at Versalis to protest the delayed, or possibly canceled, restart of the cracker at Porto Marghera, near Venice. News agencies said the escalating stand-

off between Eni and the trade unions will likely cast a shadow over the unveiling of Descalzi's new strategy on July 31.

With the possible site closures, Versalis chief Daniele Ferrari's new strategy unveiled last year, outlining plans to invest in renewables and rejuvenate petrochemical activities at the same time, also appears in danger.

On the day of the Eni strike, unions across Italy plan to stage a nationwide demonstration in Rome.

Reports say worker protests are mounting at companies across Italy Italian in the face of record high unemployment levels.

If Eni fails to turn around its loss-making refining business, it could suffer a credit rating downgrade if it fails to turn it around, ratings agencies have warned. (dw)

China Tackles Its Major Economic Issues

An Examination of the Government Influence on the Chemical Industry in China

Just a few months ago, China's President Xi Jinping announced to give markets a decisive role in economic development. However, in the past the Chinese government – with its historical background in communist economic thought – has not at all been reluctant to direct or at least strongly influence the economy. This obviously affects the chemical industry in China.



Dr. Kai Pflug, CEO,
Management Consulting – Chemicals,
Hong Kong, China

China faces a number of major economic issues. The Chinese government does generally not hesitate to use its available tools to address these issues. What are these issues, in particular those that are related to the chemical industry? What tools are being used to direct the chemical industry? And what are the objectives and desired outcomes?

Objectives In Focus

China's wealth distribution is highly imbalanced. This does not only apply to individuals within the same regions, but also to average wealth in different regions. Average income in Shanghai is about seven times higher than in the poorest province, Guizhou. In order to promote greater regional equality, China – using the colorful "Go West" slogan – has implemented a massive program to improve the infrastructure in the Western provinces.

A "Scheme for Central China to Advance the Region's Raw Material Industry Structure Adjustment, Optimization and Upgrade" announced the promotion of the basic chemicals industry in Central China by building large-scale coal chemical groups. In some areas, companies relocating from Eastern to Western China get a lower rate of corporate tax.

Chemical companies may also benefit – BASF is believed to have received state subsidies when setting up their new MDI plant in Chongqing in central China. State-owned chemical companies also heavily invest in some of the more remote provinces, e.g., Xinjiang and Inner Mongolia, not only because of the raw materials available there but also as a political tool to expand state presence and create additional jobs in poorer regions. In addition, new projects are approved more easily in Western provinces than in Eastern China.

Environmental issues are getting more and more important to the

government, as a consequence both of the increasing severity of pollution and the increased awareness among the newly created middle classes. Consequently, legislation is being implemented on issues such as air pollution and energy consumption.

The government also aims to discourage the production of harmful chemicals, e.g., by cancellation of export rebates for particularly polluting chemicals, and regulates the use of some of the more damaging production technologies in areas such as PVC, calcium carbide and chromium salts.

Rules for the management of new chemical substances have been tightened. Generally, foreign companies are somewhat less affected by the stricter regulation as they already produce at higher standards, but companies such as Lanxess have recently shifted some of their production away from focal points of environmental protection (such as Wuxi, which is located close to the major and environmentally vulnerable Lake Taihu).

Overcapacity management is an area in which the Chinese government hesitates much less than Western governments to engage in. For example, in 2013, the relevant ministry reduced capacity in a variety of chemical fields such as calcium carbide, ethyl alcohol, monosodium glutamate, and chemical fiber.

Generally, the capacities closed were either based on old technology or of a small size, leading to the additional benefit of improving the technology level and average production cost of affected segments. In addition, restraints are placed on foreign companies to enter areas already suffering from overcapacity, such as polysilicone.

Government Activities

Many chemical segments in China show a high degree of fragmentation, which is a concern for the government due to the low profitability of these industries and the low technological standards. Consolidation is therefore a government objective which is pursued by setting entry conditions for specific chemicals, e.g., for ammonia, calcium carbide, fluorite, magnesium, rare earths, soda ash, specifying items such as the plant location or minimum size, the maximum energy consumption or the production process used.

For some segments, the consolidation objective is quite specifically aimed at creating globally competitive champions – for example, in the carbon fiber industry, the Ministry of Industry and Information Technology (MIIT) aims to establish two or three internationally competitive carbon fiber groups. Mergers – particularly those that save weaker players from going under – are often actively supported by the government, for example by giving weak state-owned players to stronger players for free.

Segments considered to be strategic are actively promoted by the government (more specifically, the MIIT). Activities include strength-

ening of R&D support, promotion of foreign investment and accelerating general development in specific areas such as rare earths, specialty glass, functional ceramics, semiconductor lighting materials, high performance membranes, carbon fibers, hydrogen storage, fluoropolymers and nano materials. Also, state-owned enterprises (SOEs) are supported in acquiring assets overseas, in particular in the areas of basic raw materials such as oil and in specialty chemicals.

Recently, the government announced that it will continue to reduce restrictions on foreign capital in China's manufacturing industries including the chemical industry. However, so far basic coal chemicals and petrochemical projects can only be done by multinational corporations (MNCs) as part of a JV with a domestic player. In addition, the government also restricts foreign expansion in areas deemed to already be crowded.

On the other hand, foreign investment is supported in production of advanced materials as well as in chemical R&D and in establishing regional headquarters. These activities are aligned with China's goal to continuously modernize its economy, both with regard of the type of materials produced and with regard to the more general shift from production to services.

Finally, social stability is of course a major government goal, which in terms of economic policy translates to avoiding large-scale unemployment. The government generally prevents state-owned enterprises from large-scale layoffs even if (as in many state-owned entities) the number of workers far exceeds the number necessary to run the business (indeed, mergers involving state-owned chemical companies often include the unspoken condition of not involving massive layoffs).

This discussion shows that indeed – unsurprisingly – the government has a major influence on the chemical industry in China. However, it should also be pointed out that many of the objectives targeted, and tools utilized, are not massively different from those utilized by Western governments.

Directing investment via subsidies, controlling the impact of imports via duties, or balancing the interests of production with environmental protection via legislation are all familiar aspects for the chemical industry in the Western world.

One main principal difference is the much bigger presence of state-owned enterprises, which can be expected to target non-profit objectives such as avoiding layoffs much more directly than private companies. The other is the lower reluctance of the government to be visible as a strong driver of specific segments of the economy, something that at least conservative Western governments are somewhat more hesitant to admit openly.

Conclusion

The info box above provides a summary of a number of hypotheses aiming to give a qualitative forecast about the future development of government influence on the chemical industry in China.

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Hypotheses for future government influence on the chemical industry

1. Despite the above mentioned objective of giving a bigger role to market forces, it is very likely that the government will remain a major influence on the chemical industry in China. As long as state-owned enterprises keep their current importance (and there are no strong indications otherwise), this influence will be bigger than in the West.
2. Government policy will keep affecting basic chemicals more than specialty and fine chemicals. This is both due to the larger size of individual basic chemicals companies and their perceived larger importance for China's self-sufficiency.
3. The government will continue to promote specific segments of the chemical industry, such as advanced materials. However, the effect of these activities will probably not be much stronger than similar activities of Western governments.
4. Environmental protection will be pushed further by the central government, however this will be resisted by provincial and lower-level governments.
5. While for foreign chemical companies it will remain important to understand and anticipate government policy, the overall influence of it on their business is likely to remain at a similar level as now.

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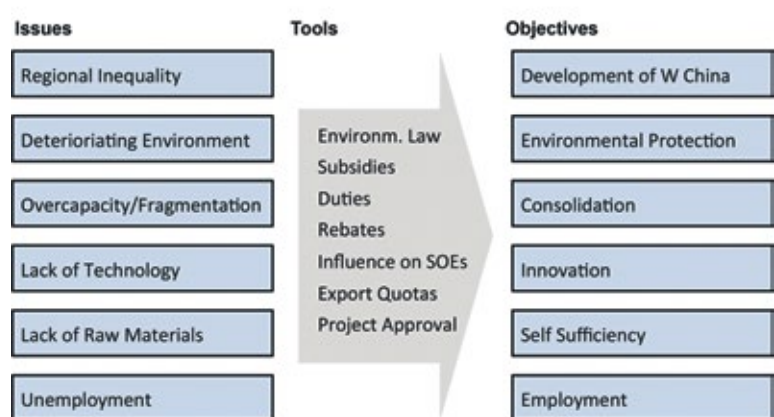
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Government influence on chemical industry in China: issues, tools and goals



All Systems Go

Fluoropolymers Producer Dyneon Prepares for Tomorrow's Market Requirements

Market indicators unanimously point to a rosy future for polytetrafluoroethylene (PTFE) and other fluoropolymers, with mean growth of 4.5% compound annual growth rate (CAGR) forecast through 2017 for the European market. In addition, a report published by PR Newswire estimates global fluoropolymer market revenue will reach almost \$9.8 billion by 2018, growing at a CAGR of 5.7% from 2013 to 2018.



Dr. Hans Günther Beckers,
3M Advanced Materials Division

Dyneon, headquartered in Burgkirchen, Germany (photo), is one of the leading producers of fluoropolymers in the world. The company emerged from a joint venture of 3M and Hoechst AG in 1996 and, since 1999, has been a wholly owned subsidiary of 3M. Today, Dyneon is part of 3M's Advanced Materials Division and is diligently working to stay ahead of market demand, having made several key moves to bolster capacity recently.

Material with a Bright Future

Fueled by their growing range of applications, advancing technology across all industries and their enormously advantageous chemical and thermal properties, fluoropolymers are poised to capture even more market share in the future.

"Automobile manufacturers, for example, who are confronted with increasingly tougher carbon-emission regulations, are looking for ways to improve engine performance while saving on space. They have discovered the merits of PTFE's chemical resistance and the ability to handle higher temperatures," said Dr. Hans Günther Beckers, general sales and marketing manager, 3M Advanced Materials Division.

Fluoropolymers' lightness, durability and several other key properties make it of great value in architecture as well, enabling the construction of stadiums, for instance, with significantly fewer structural members, which improves visibility for spectators. These materials made possible the innovative and futuristic design and construction of many of the 2014 FIFA World Cup Brazil venues. In the chemical industry, fluoropolymers are essential in applications like tank linings or seals. Their outstanding chemical and thermal resistance is a key contributor to making chemical processes safer and more efficient.

Dyneon Builds Up-Cycling Facility

The list of fluoropolymer's field of applications is vast, and 3M is devel-



Dyneon's German headquarters in Burgkirchen at the Industriepark Gendorf is home to its research and development facilities, as well as fluoromonomer and fluoropolymer plants.

oping its capacities and resources as the market develops. When talking about the future of these materials, however, it is necessary to address the subject of sustainability, which Dyneon takes very seriously, having designed the world's first process to recover up to 95% of the monomers split from fluoropolymers. The new Up-Cycling process conserves fluorospar, a very valuable mineral that is the raw material essential to the

is supported by the German ministry of environment (Bundesministerium für Umwelt). The facility will integrate into the on-site emission control system. Alone, the fact that we received such enormous support on this project, including that of the University of Bayreuth, InVerTec and Deutsche Bundesstiftung Umwelt, should be an indication of just how significant this achievement is.

Top Industry Specialists

Another key move made by Dyneon is bringing Dr. Michael Schlipf on board. Schlipf is known throughout the industry as an expert in PTFE and modified PTFE and is highly regarded as a forum speaker. He will play a very active role in PTFE engineering and Dyneon's New Sealing Technology compounds, and

will consult customers on the use of Dyneon fluoropolymer products.

"If a customer requires assistance modifying processes or needs a custom solution, Dr. Schlipf will work closely with the customer to find the best answer to the challenge. He knows how to plow the information he obtains from such interaction effectively back into our new product engineering processes, ensuring the products successfully meet customer requirements," said Dr. Hans-Günther Beckers. Schlipf will also provide important feedback for the advancement of existing products according to the evolving needs of our customers.

PTFE: Sealing Our Future

Meeting market demand also means developing new products and technologies. 3M has recently launched

the first of many soon-to-come products in its New Sealing Technology (NST) product portfolio. The new high-performance PTFE compound for dynamic seals offers numerous significant advantages for the automobile and chemical industries, processors, consumers, and the environment. The first product, called 3M Dyneon Compound NST 1111R, is highly innovative and demonstrates the company's compounding expertise, featuring Dyneon's high-performance PTFE and 3M's solid ceramic fillers. Its development required a sizeable financial investment, much time and a great deal of technical know-how.

The new material offers many decisive advantages over fiberglass-reinforced compounds, including lower raw-material consumption, reduced leakage, improved wear and friction torque, as well as low-

er permeability. And there are many more high-performance compounds in 3M's innovative pipeline, including products with hollow glass microspheres for static sealing applications. Especially useful is that all the compounds formulate to meet customers' specific needs.

New FFKM Production Facility

Especially perfluoroelastomers (FFKM) are highly resistant to aggressive substances and heat, which along with their excellent compression set resistance makes them ideal for chemical and pharmaceutical processors. But since there is no single perfluoroelastomer that is capable of meeting all the ambitious requirements of every manufacturing process or environment, individual and balanced solutions are necessary. This is where 3M's customer commitment, and polymer/comounding expertise and capability ensure customers get exactly what they're looking for.

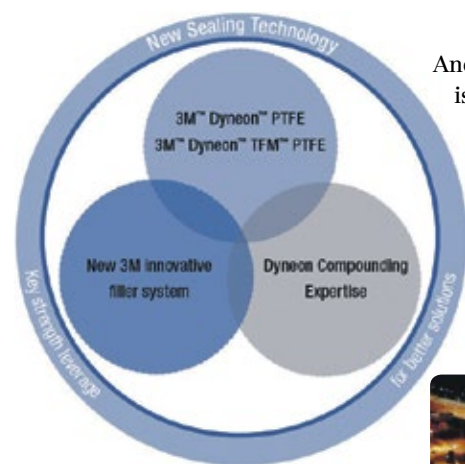
Here, too, 3M Advanced Materials is expanding its manufacturing capacities and product portfolio to satisfy and prepare for tomorrow's market requirements. These efforts include a brand new polymer-manufacturing machine in Antwerp, Belgium, which recently opened its doors to production at the company's facility. The site features a production line dedicated solely to the manufacture of small lots of high-grade FFKM, a state-of-the-art mill, as well as chilled storage and dedicated packing operations.

Teaming Up with Leading Innovative Institutes

3M realizes the need to work closely with leading institutes, universities and other sources of cutting-edge technologies and know-how, in order to provide various industries with advanced fluoropolymer solutions. Among the many instances of cooperation, certainly the collaboration with InVerTec, the University of Bayreuth and Deutsche Bundesstiftung Umwelt on the fluoropolymer up-cycling plant is a prime example of Dyneon's unwavering faith in PTFE's ability to answer many of the industries' diverse challenges now and in the future.

ChemDelta — Fertile Ground for Innovation

Dyneon's German headquarters in Burgkirchen at the Industriepark Gendorf, which is in Bavaria's ChemDelta, is home to its research and development facilities, as well as fluoromonomer and fluoropolymer plants. In the ChemDelta, 25 companies and 25,000 employees together have generated total annual revenue of over €8 billion and have received or implemented €3 billion in investments in the past three years. Many of the companies are household names in the global chemical industry.



manufacture of fluoropolymers. It also secures the availability of this rare commodity, whose price is very volatile. The process integrates seamlessly into fluoropolymer production lines.

This project already has passed the laboratory phase, and a plant on industrial scale is under construction, with the building construction already complete. Work is underway on the plant's infrastructure and installation of equipment and machinery. Plans call for the new facility to begin operations in fourth quarter 2014, when the first industry-scale fluoropolymer Up-Cycling plant is expected to process 500 metric tons of fluoropolymer waste generated from Dyneon's plant and other sources in the first year. The project



The eye-catching architecture of several venues of the 2014 FIFA World Cup has been made possible by fluoropolymers. The roofing of the Estádio Beira-Rio in Porto Alegre is made of sheets of fiberglass membranes in the shape of palm leaves that are coated with PTFE.

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BASF to Sell Stake in Styrolution to JV Partner Ineos

BASF is exercising the put option in its 2011 joint venture agreement with Ineos to sell its 50% stake in styrenics producer Styrolution to the Swiss-based partner for €1.1 billion. The sale is expected to close at the latest in Q4 following regulatory approval. In future, Styrolution will be a subsidiary of Ineos Holdings; in the interim it will continue to operate independently. BASF's option to

sell to Ineos comes due in October this year. At a press conference earlier this year, however, BASF's CEO Kurt Bock had left the exit date for Styrolution open. The company with annual sales of €5.8 billion and EBITDA of €442m in 2013 produces PS, ABS and SAN at locations in Europe, North America and Asia. It is also one of the leading producers of styrene monomer. (dw)

Bayer Consolidates Polycarbonate Sheet Business in Germany

Global overcapacity and slack demand are leading Bayer MaterialScience (BMS) to consolidate its polycarbonate (PC) sheet business. In the latest move, the company plans to close its sheet production site in Darmstadt, Germany, and supply German customers from its facilities in Nera Montoro, Italy, and Tiel, Belgium. BMS said the decision to close the German site with the

loss of 90 jobs followed a "thorough review" of its polycarbonate business model. Consolidation of sheet activities in Europe was deemed necessary to ensure the long-term viability of the business as a whole and to remain competitive. BMS currently produces PC sheet at ten locations, and not only Europe is seeing cutbacks. Asia-Pacific has already undergone consolidation. (dw)

Austria's Borealis Divests Stake in French Urea Facility

Borealis Chimie, French subsidiary of the Vienna-based petrochemicals and fertilizer producer, has divested its share in the 320,000 t/y urea plant at Le Havre and related ammonia storage facility at Gonfreville l'Orcher, both in France. Following the divestment, the facilities will be wholly owned by Yara France, part of the Norwegian fertilizer producer. Through the 2013 acquisition

of GPN, subsequently renamed Borealis Chimie, Borealis also assumed the 52.15% stake in the Le Havre urea plant, which in turn has a 37.5% stake in the related ammonia storage facility. Borealis said it is divesting its share to concentrate on its wholly owned industrial sites and, in the case of existing partnerships, to give precedence to less restrictive legal forms. (dw)

German Chemical Makers: TTIP a “Political Chance”

German Chemical Industry Association VCI Forecasts 2% Rise in Production This Year

The German chemical industry has come out squarely in favor of the controversial US-European trade agreement Transatlantic Trade and Investment Partnership (TTIP).

While many across Germany and Europe, in particular consumers and trade unions, are skeptical of the agreement, with some even calling some of its provisions “an affront to democracy,” Dr. Karl-Ludwig Kley, president of the German chemical industry association VCI (and CEO of Merck KGaA), said European chemical companies believe TTIP could bring noticeable impulses for the economy, in particular tariff reduction, reduction of non-tariff trade barriers, and stimulation of the overall economy.

At the same time, however, he emphasized that “there can and must be no compromise to lower the protection standards.”

Regulatory cooperation with a long-term approach would be the decisive advantage and a basis for lasting impulses for the chemical industry, Kley believes. “This is where TTIP could bring entirely new perspectives. It would be desirable to establish a permanent process where the possibilities are explored for an approximation of rules and regulations in the medium to long run,” he said.

According to the VCI’s own calculation, the German chemical industry would clearly benefit from TTIP. Potential effects for the industry would be 2,000 new jobs, a production plus of €2 billion, and additional value



creation of €600 million. Kley said experience shows, that the greatest benefits would be seen by the workforce, with 70% of the additional value creation chalked up to jobs against a 30% gain for company profits.

Although US trade tariffs are already low – for chemicals ranging from zero to 6.5% – “even low tariffs cause high costs,” the VCI president noted. In 2010, the association calculates that German chemical exporters paid €140 million to the US – “unnecessary costs that could be used for really meaningful investment.”

So-called non-tariff trade barriers are a much more important perspective, according to Kley. A study by research group Ecorys, he said, has calculated savings potential up to ten times higher than for tariffs. As one example, he mentioned the classification and labeling of substances. If substances were labelled with the same warnings and symbols on both sides of the Atlantic, repacking and relabeling would be no longer necessary.

Another advantage of TTIP in VCI’s view would be a stimulation of the overall economy. As an “industry for industry”, this would benefit

chemistry in particular,” Kley remarked.

According to the Ecorys analysis, the German chemical industry would rank among the winners of an ambitious free trade agreement – irrespective of the shale gas boom. Although “US companies are clearly



Even low tariffs cause high costs.

Dr. Karl-Ludwig Kley, president of the German chemical industry association VCI

at an advantage where energy-intensive productions are concerned,” VCI points out that US companies supply their basic chemicals mostly to emerging markets while German chemical businesses export mainly specialties and pharmaceuticals to the strongly growing US market.

“If tariffs and bureaucracy and regulatory costs could be lowered, TTIP would strengthen our competitiveness in specialty chemistry – also vis-à-vis third countries,” said Kley.

Along with the Netherlands, the US is the most important foreign

market for the German chemical industry. It exports goods worth around €15 billion to the country and generates a trade surplus of over €4 billion. Roughly 40% of all German chemical investment in foreign fixed assets to the US, and the trend is upward,” Kley said.

deteriorate by only 0.5%, a 1.5% improvement in sales to around €193 billion is forecast.

In this year’s first half year, business with both domestic and foreign customers for German-made chemicals improved, VCI said. Domestic sales increased “dynamically,” adding 3.5% to reach €40 billion. By contrast, the industry’s foreign sales gained only 1% to €58 billion. Due to the strong industrial economy, imports of chemicals into Germany also increased, by 4%.

Production capacities were utilized to around 85% from January to June 2014. Most product segments saw improvement, with pharmaceuticals gaining 7%, fine and specialty chemicals adding 6% and consumer chemicals 2.5%. Petrochemicals squeaked by with a 0.5% rise. Polymer producers found themselves on the minus side with a decline of 1.5%, while inorganic base chemicals sales took a dip of 3.5%.

The German chemical industry’s sales to European customers improved by 3% in the first half, but the dynamics of business with customers in NAFTA were stronger, VCI said. Thanks in particular to the

strong recovery of the US economy, sales to the region picked up by 5%. Especially good demand was seen for pharmaceuticals and specialty chemicals.

By contrast, business with Asia was weaker than expected, with sales increasing only 0.5%. South America led chemical business’s the negative list, with a 10.5% slide, followed by Africa with a 3.5% setback.

Explaining the reasons for German chemical producers’ confidence, Kley pointed in particular to the country’s strong industrial economy. Along with Germany’s continued success as an export nation, he said the domestic economy is also “becoming increasingly robust.”

Elsewhere, Kley said, signs are exceedingly appearing that the European economy has stabilized. Here, producers believe business is likely to show improvement in 2014, even if the region as a whole is not showing much dynamism.

For the full year 2014, VCI is sticking by its earlier forecast of 2% growth in production and a rise in 1.5% in total sales to €193 billion on the basis of 0.5% lower selling prices. (dw)



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Gases for Emerging Markets from Saxony-Anhalt

Air Liquide Opens New Facility at the Agrochemical Industrial Complex of SKW Piesteritz

Air Liquide is one of the biggest global providers for gases for industry, medicine, and environmental protection. The company is present in over 80 countries worldwide. The gas producer is working with over 2,000 products for more than 50 industries. A total of 4,500 people work for Air Liquide in Germany alone and generate an annual turnover in excess of €2 billion.

Air Liquide has now been associated with the German federal state of Saxony-Anhalt for more than 20 years. The company temporarily took over an acetylene factory shortly after German reunification. In the course of the acquisition of Messer Griesheim in 2006, the group officially took over a factory in Wittenberg, not far from Berlin, Leipzig, and Dresden has particular importance for the company as it enables Air Liquide to supply carbon dioxide not only to customers in eastern Germany (Air Liquide has approximately 20,000 customers in Saxony-Anhalt alone), but also in western Poland. As the previous

long distance transports from production sites in the Rhine/Ruhr-area are no longer needed the new plant will also be a contribution to the environment.

Just a few hundred meters from the medical site, Air Liquide has built a second plant which was officially opened in June 2014. A total of 15 jobs were created at the new Air Liquide site. The new facility is located on the premises of the agrochemical industrial complex of SKW Piesteritz, a long-term customer of Air Liquide Deutschland. SKW Piesteritz develops chemical products for agricultural and industrial chemicals and is one of Germany's largest producers of ammonia and carbamide. Air Liquide uses the CO₂ which accrues as a by-product during the production of ammonia as raw gas that is cleaned, liquefied, and then stored in two tanks that are located directly on the site. Carbon dioxide can be used in a variety of applications, e.g. to carbonate beverages, as a freezing agent in the food industry, as an inert welding gas, as part of water treatment in environmental protection, or as an agent in dry ice production. Air Liquide has invested approximately € 8 million in the modern facility for the purification and liquefaction of carbon dioxide that meets the high requirements for safety and quality in the areas of food and medicine. The



annual production capacity amounts to up to 55,000 tons of CO₂ in liquid form. Air Liquide also provides technical support for customer systems.

Since the initial phase, the German-wide settlement agency German Trade and Invest (GTAI) and the Investment and Marketing Cor-

poration Saxony-Anhalt have supported the Air Liquide project in the location decision as well as the settlement process, such as in assessing the funding or manpower, and assisted discussions with the state government and regulatory authorities.

Arno Sander, CEO of Air Liquide and responsible for internal projects, expresses a satisfied summary of the investment process: "After the initial idea was born and we were able to gain the SKW as a partner, the idea was implemented relatively quickly. Ultimately, the project was

implemented relatively problem-free and without red tape. There are areas in which we invest, in which we have to put in significantly more administrative effort than here", says the project leader.

Andreas Kallies, responsible for production management of Air Liquide in Germany and Austria, also sees clear advantages in the renewed investment at the site in Wittenberg. "With SKW Piesteritz, we have a gas source from which we can obtain CO₂ in reliable quality, in the right amount, with the existing infrastructure and with technologies that we know that meets the standards for foods", he explains. Furthermore, the SKW ammonia facilities, from which Air Liquide obtains raw gas for CO₂ production, are virtually in walking distance.

In addition to the infrastructural advantages of settling in the Agrochemie Park, Air Liquide also benefits from the administrative synergistic effects between the two plants, from training activities to the induction of new employees. However, the main advantage is the CO₂ that Air Liquide Medical draws directly from the carbon dioxide plant. The requirements for safety and quality are particularly high in the areas of food and medicine.

Contact:
www.invest-in-saxony-anhalt.com

Speed, Simplicity, Stability

The Chemical and Life Sciences Hub of Infrapark Baselland

In 2010, the Swiss specialty chemicals group Clariant decided to transform its 37-hectare company premises in Muttenz into a chemical park. Besides the existing buildings, which can be converted, around 16 hectares of open space are available to interested companies.

Under the brand name Infrapark Baselland, the chemical park started its operation in 2011. Situated at the heart of Europe at the point where Switzerland, Germany and France meet, Infrapark Baselland is part of the business hub of Basel. The Basel region attracts staff from all over the world.

At the start, in addition to Clariant, with its Business Units headquarters, business services and production of additives and additional chemical specialties, other companies such as Bayer CropScience and Aprentas, the training association of the Basel chemical and pharmaceutical industry, were already operating at the premises of Infrapark.

To date 15 companies are based at Infrapark. These companies are active in the field of the production and development of specialty chemicals, green chemicals, industrial, pharmaceutical and medical gas products, and also chemical logistics, lab automation and other services that support the manufacturing companies at the site and are not part of Infrapark's services.

Hence, the site, operating as a chemical park since the beginning of 2011, shows impressive growth. In 2013 tenants invested more than CHF 100 million in various projects to expand their production capacities. To support this expansion, Infrapark spent more than CHF 10 million each year in infrastructure such as wastewater pre-treatment, energy and utility supplies. In the past three years the



turnover with third-party customers grew by more than 40%, and 200 additional jobs were created.

A big milestone in the young history of the chemical park was passed when Infrapark Baselland was established in January. The services and infrastructure related to the chemical park were completely transferred to this new legal entity with the aim to continue improving the already highly valued expertise and skills of this business. Infrapark Baselland is owned (100%) by Clariant.

What are the success factors of Infrapark Baselland?

Speed: According to our customers, one of the decisive factors to settle their enterprise at Infrapark is the speed with which they can realize their business, be it the permit to start with the construction work of a production building or the permit to start manufacturing chemical products. Compared with other European locations the authorities show a pragmatic approach in dealing with special requests and are very familiar with

the processes in the chemical industry. In addition, thanks to the well-established connections of the Environment Health and Safety department at Infrapark, the early informal exchange of information enables companies to achieve target-oriented solutions.

Simplicity: Clear and simple processes and structures allow newcomers to quickly adapt to local conditions. The support provided by the specialists at Infrapark also leads to unobstructed solutions even to complex problems.

Stability: Despite the recent votes of the Swiss population, stability can be considered a constant in Switzerland. The country's longstanding political and macro-economic stability and well-established legal framework are major plus points. Other attractive factors include the liberal stance of most Swiss on economic and social matters, including labor, and their discreet and respectful attitude to private property and money. In summary, Infrapark Baselland offers all the well-known advan-

tages of other chemical parks in Europe, but on top of that also provides a very pro-business environment. In addition, hardly any other region in the world demonstrates a comparable concentration of industrial companies and research institutions in the chemical and life sciences industries like Basel. The chemical and life sciences industries are at home here — and at Infrapark Baselland.

Dr. Gaudenz Furler,
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EU Energy Chief Tells Germany to Keep Fracking Options Open

Europe could eventually get a tenth of its power needs from shale gas if it can overcome reservations such as those voiced in recommendations from two German cabinet ministers, a German newspaper quotes EU energy commissioner Günther Oettinger.

Oettinger, a German citizen and a member of Chancellor Angela Merkel's Christian Democratic party, told the newspaper that Germany should keep its options open. In his view, leveraging shale gas would help Europe rely less on energy imports at a time of tension with its major gas supplier Russia.

Companies including ExxonMobil and BASF's oil and gas arm Winterhall have pushed to explore possibilities for fracking in Germany.

The two cabinet members responsible for preparing legislation on fracking due this year, economics minister Sigmar Gabriel and environment minister Barbara Hendricks, both Social Democrats, have circulated proposed guidelines for fracking among members of parliament ahead of presenting their plans to the cabinet.



Günther Oettinger, EU Energy Commissioner

The ministers propose banning fracking of deposits less than 3,000 metres below the surface via tougher laws. Test drilling — which BASF has called for — would be allowed, and the practice of drilling for tight gas also could be continued under the envisaged rules.

To exclude the possibility of fracking chemicals contaminating drinking water, the ministers propose requiring comprehensive environmental tests. In nature protection areas and near drinking water reservoirs, drilling would be banned under the proposals.

Germany's Federal Institute for Geosciences (BGR) two years ago put the country's shale gas potential at 0.7- 2.3 trillion cbm. (dw)

EU Climate Goals Not Attainable, Says BASF CEO Kurt Bock

The EU's goal for 2030 of cutting greenhouse gases by 40% against 1990 is not realistic, BASF chief Kurt Bock said at an economic conference of the German Christian Democratic Party (CDU).

If the 40% target is approved in autumn it would curb growth in the European economy, Bock said, adding that this contradicts the EU goal of increasing the share of industrial production. The EU's earlier target was a 20% reduction by 2020.

CEO of the world's largest chemical producer, Bock said he regrets that Germany supports the 40% goal, while other European governments oppose it.

Bock also took issue with proposals by two Social Democratic members of Chancellor Angela Merkel's cabinet to hydraulic fracturing, or fracking, above 3,000 meters depth.



Dr. Kurt Bock, CEO, BASF

The BASF chief also reiterated his criticism of Germany's phase-out of nuclear energy, saying that the focus on renewables reduces security for chemical producers.

It is also not correct to suggest to the German population that the switch will cost nothing, Bock said. At least from industry's point of view, "exiting nuclear power hurts," he remarked. (dw)

EDITORIAL

Big Data



Dr. Volker Oestreich, CHEManager

Tom and Sue live in the Northeast United States. They both work and consider themselves middle-class; their salaries afford them a reasonably good livelihood. They use their joint credit cards for shopping, sometimes using up their available credit. For the Soccer World Cup they wanted a new big screen and a new barbecue grill to celebrate the national soccer team with their friends. But when paying there was a problem: All of a sudden the card's credit line was drastically reduced. Tom and Sue were never officially informed about the reason for this radical measure: Their shopping behavior shows a considerable accordance with typical shopping patterns of couples that are going to get divorced in the course of two years. The banks reduce the credit limit as a precaution and therefore cut their risk of losses after a divorce. Based on statistical values, Big Data influences individual fates.

A Chinese factory of a big European chemistry company sees significant breakdowns of the process yield several times per year. The experts helplessly study possible causes. Finally, after analyzing all available measurement data collected over a long period in the facility, they see a correlation between the data of a technologically preliminary stage and the yield of the end product. And the yield problems can now be solved with appropriate measures. Big Data contributes to efficiency in the process industry.

Are these examples fiction or reality? In any case, there are always several sides of a new technology. The experts and decision-makers must decide whether and how a new technology is used, where its opportunities and risks lie, and how to assess the results. In addition, it is becoming more and more important to be informed far beyond subject limits. Only the one who is well informed and makes good decisions on that basis will take the lead.

Dr. Volker Oestreich, CHEManager

Anyone reading forecasts regarding the growth of data worldwide in the near future will probably feel like a gold digger in the Rocky Mountains. According to analysts from International Data Corp., the digital data mountain is expected to grow forty- to fiftyfold between 2010 and 2020, to 40 zettabytes.



Dr. Wolfgang Heuring, Head of the Research and Technology Center, Siemens

A zettabyte has 21 zeros. To put it another way, six terabytes of data will be stored for each of the world's inhabitants in 2020. This corresponds to the amount of text contained in three million books per person!

Most experts are convinced that veritable gems can be found in this mass of data. In a global survey of people from all sectors of the economy conducted by the University of Oxford, almost two-thirds of the respondents said that the use of data and analytical processes provides their companies with a competitive edge. Two years earlier, the corresponding figure was only 37%. But how can today's "gold diggers" find nuggets in the mountains of data?

A term frequently used here is "big data," which refers to new technologies for recording, storing and analyzing large amounts of data, as well as for displaying the results in a suitable form. For example, a topic that is much discussed is the use of data generated by people who search or buy on the Web or the utilization of data from the world's financial and communication networks. However, the bits and bytes from industrial facilities, buildings, energy systems and hospitals are at least as valuable — and big data, as the term is understood today, is inadequate here. That's why big data has to evolve into smart data.

Understanding The Data

We have to understand the mass of data in order to correctly evaluate it. We have to know how the various de-



Why Big Data Has to Become Smart Data

vices and facilities function and what sensors and measuring technology we need to obtain the really relevant data. The decisive criterion here isn't necessarily the amount of data (big), but valuable content (smart).

In a large gas turbine, hundreds of sensors measure temperatures, pressures, flows, and gas compositions

connected to these centers, which process more than 10 terabytes of data each month. This amount is expected to increase tenfold by 2020. The centers analyze the data from almost all of the systems, from traffic lights, traffic computers, trains, and ship engines to thousands upon thousands of buildings, chemical plants, paper factories, wind and gas turbines, X-ray machines, and computer tomographs.

Take wind power plants, for example. In these systems, sensors also measure mechanical vibrations, which are compared with a database containing the measurement values of more than 6,000 wind turbines. If there is an anomaly, the service team can take immediate action before the system breaks down.

Such anticipatory maintenance would also be extremely valuable for trains or medical equipment — and for power plants as well, of

Smart Data Revolution

However, together with anticipatory maintenance, real-time remote diagnosis is only one example of how smart data will change companies' business models. There are many more possibilities. For example, technicians could use tablet computers to obtain the help of specialists whenever they have problems operating equipment.

In addition, doctors evaluating images from computer or magnetic resonance tomography, for example, could use smart algorithms to access a database containing many similar cases that have been rendered anonymous. This would allow the doctors to take previously accumulated information into account in their diagnoses.

Moreover, the data obtained from the management of thousands of buildings could be used to come up with recommendations for saving electricity and reducing heating costs. What's more, measurement data from a train's operation could provide train engineers with tips on how they can drive their trains more energy-efficiently. The resulting savings would be split between the user and the provider of the smart data. It would be a real win-win situation and a good example of how nuggets can be mined in the data mountains.

The decisive criterion here isn't necessarily the amount of data, but valuable content.

Prophetic Capabilities Are Needed

In the future, smart data will not only enable us to find out what is happening in our facilities at any given moment, but also why it is happening. Moreover, it might even tell us what will occur in the near

We have to understand the data in order to create added value.

future and what we can do about it.

The first steps in this direction have already been taken. For example, Siemens operates remote-maintenance centers on several continents. Around 250,000 facilities are

course. For example, if the drive unit of a power station's coolant pump stops working, the plant will stop generating electricity and cause losses of hundreds of thousands of dollars each day.

www.siemens.com/pof
www.siemens.com/innovation

Celanese to Expand Capacity for Celstran in Suzano, Brazil

US chemical producer Celanese plans to expand manufacturing capability at its Suzano, Brazil, site by 2015 to include Celstran long fiber-reinforced thermoplastics (LFRT). The Celstran expansion is expected to be operational by mid-2015.

At the Brazilian site, Celanese already compounds its Hostaform and Celcon acetal copolymer (POM) and its Celanex and Vandar thermoplastic polyester (PBT) products for customers in Brazil and Latin America.

"The addition of Celstran manufacturing capabilities to our existing site outside Sao Paulo is part of the Celanese growth strategy to directly serve our customers in Brazil and Latin America," said Phil McDivitt, vice president and general manager of the engineered materials business

at Celanese. He said the company sees healthy growth potential, especially in automotive applications.

Celanese will be the first local producer of LFRT, according to Stefan Kutta, the company's global director for the automotive industry.

Guert Rucker, commercial director for South America, said the new LFRT plant will also help the company address its customers' needs for value chain localization of raw materials.

Carmakers who set up assembly lines in Brazil stand to benefit from the government's Inovar-Auto scheme launched in 2012, which offers tax advantages for companies with a high level of localization in production and R&D. (dw)

Air Products and Matheson Begin Helium Production in Wyoming

US industrial gases producer Air Products and Matheson Tri-Gas, a member of the Taiyo Nippon Sanso Corporation (TNSC), have begun filling and shipping of the first two 11,000 gallon helium ISO containers from their jointly-owned liquid helium production plant near Big Piney, Wyoming, USA.

The plant is designed to produce 200 million standard cubic feet of helium per year initially, with expectations for doubling the capacity.

The Big Piney facility purifies and liquefies a helium feedgas stream supplied by Denbury Resources' Riley Ridge gas processing plant.

The Denbury plant processes a raw gas stream produced from the LaBarge Field in Wyoming, one of the largest helium-rich gas fields in

the US, believed to contain sufficient helium reserves to support production for decades.

"This plant is beginning operations at a good time as both suppliers and manufacturing end-users of helium are still recovering from a global helium supply shortage," said Walter Nelson, general manager - Worldwide Helium.

Air Products maintains what it says is the world's largest helium production and distribution system.

Matheson manages the global helium business of TNSC under the name Matheson Global Helium. TNSC is the leading helium supplier in Japan, and is one of only five major industrial gas companies in the world with direct access to helium sources. (dw)

ExxonMobil to Invest Over \$1 Billion in Antwerp Refinery

Esso Belgium, a division of ExxonMobil Petroleum & Chemical, plans to install a new delayed coker unit at its Antwerp refinery to convert heavy, higher sulfur residual oils into transportation fuels products.

The US company said the new unit at its strategic Antwerp base addresses an industry shortfall in capability to convert fuel oil to products. It also will expand the refinery's ability to help meet energy needs throughout northwest Europe, despite a challenging industry environment characterized by "extremely low margins and industry-wide losses, due primarily to excess refining capacity."

ExxonMobil said this is the first of several options being evaluated to further strengthen strategic re-

fineries in Europe. The company's annual Outlook for Energy projects that Europe's demand for diesel fuel will remain high in the coming decades for commercial transportation.

"The new delayed coker unit will further strengthen ExxonMobil's integrated downstream and chemical portfolio in northwest Europe," said Stephen Hart, regional director, ExxonMobil Refining & Supply.

While voicing what some said was a vote of confidence in Europe, where capital spending by multinational companies appears to be taking a back seat to shale-gas powerhouse North America, ExxonMobil urged the governments of EU member states not to block imports of heavy crude from Canada's oil sands. (dw)

Chlor-Alkali Strives to Stay Competitive

High Energy Prices Threaten European Industry as Imports from Low-Cost Producers Rise

For Europe's chlor-alkali industry, reduction of its rising production costs, especially energy costs, is now a pressing priority. This is not only because of the sector's low margins but also because of the need to stem an alarming decline in its share of its own domestic market to imports, particularly from North America. Ironically the biggest cuts in the European industry's total energy consumption could stem from another major challenge — the necessity in the next three to four years to close all of its remaining mercury capacity. A switch from the mercury process, amounting at present to 18% of Western European capacity, to membrane technology could result in considerable savings in individual plants, in which energy can account for as much as 60% of total production costs.

Need for Cost Reduction

The issue of costs at a time of rising energy prices, tighter environmental regulations and intensifying competitive global markets for chlor-alkali products like caustic soda was the main theme of the recent technology conference in Madrid of Euro Chlor, Europe's trade association for chlor-alkali producers. Andrew Brown, director of the inorganics group of the consultancy IHS, warned the conference that the European chlor-alkali industry had been falling behind its major competitors, particularly North America, since the 1990s. In the last four years the trend has accelerated.

The margins on an electrochemical unit (ECU), a measurement of chlor-alkali output, were about equal between the two regions in the late 1990s. But over the last few years the average ECU margins were around \$200 lower in Europe, Brown said. The US had more chlorine production capacity — 13.7 million tons a year against 11.1 million tons in Western Europe — but a third fewer players at 24 compared with 36. The average capacity per player in the US was 600,000 tons a year against 300,000 tons in Western Europe. In 2013 the average cash margin for each chlorine producer in the US was \$230 per ECU while in Western Europe it was \$36, Brown said.

Because of the shale gas boom in the US, a wide gap had opened up between North American energy prices and those in Europe, which was affecting the international competitiveness of European chlor-alkali products. Natural gas prices in the US are now over half those in Europe. Alistair Steel, Euro Chlor's executive director, told the meeting that electricity cost per ECU now varies between 45% and 60% of full cash costs. In the European Union, governments are permitted to provide financial compensation to chlor-alkali producers and other energy-intensive sectors for high energy costs. "But not all member states pay this," he said.

For chlor-alkali producers replacing mercury with membrane-based capacity, the energy savings could be as high as 30% while at the same time the operation and maintenance of the converted plant would be easier. Dolf van Wijk, Euro Chlor science and regulatory affairs director, told the meeting. Euro Chlor had made a voluntary commitment to phase out mercury capacity by 2020. However, the European Commission effectively overruled this, when under the 2010 Industrial Emissions Directive (IED) tighter rules were introduced on best available technology (BAT) criteria. This meant that by the end of 2017, mercury chlor-alkali plants would no longer be given permits to operate. Cur-

rently the 18% of Western Europe's chlor-alkali capacity based on the mercury process is by far the largest share in the worldwide industry. In other regions, the largest share at 9% is Africa and the Middle East followed by the Americas with 5% and Asia at 1%, said Brown of IHS.

AkzoNobel in May opened an electrolysis plant in Frankfurt, which replaced one based on the mercury process. It expects energy consumption to be reduced by 30% and its overall ecological footprint by 20%. Companies like AkzoNobel have taken the opportunity when switching from mercury to membrane technology to introduce other cost-saving innovations in the converted plants. AkzoNobel has introduced a vacuum process at the Frankfurt unit for decreasing the amounts of impurities, such as sulphate, calcium and magnesium, in the plant's salt raw material. The new process reduces capital costs by a minimum 30%, compared with the conventional use of rock salt, and salt purification costs by at least 90% mainly because less equipment and maintenance is required. "It helps save energy by preventing the formation of iron deposits in the electrolysis cell," said Anna Giatti, AkzoNobel's market development manager for salt.

Process Conversion

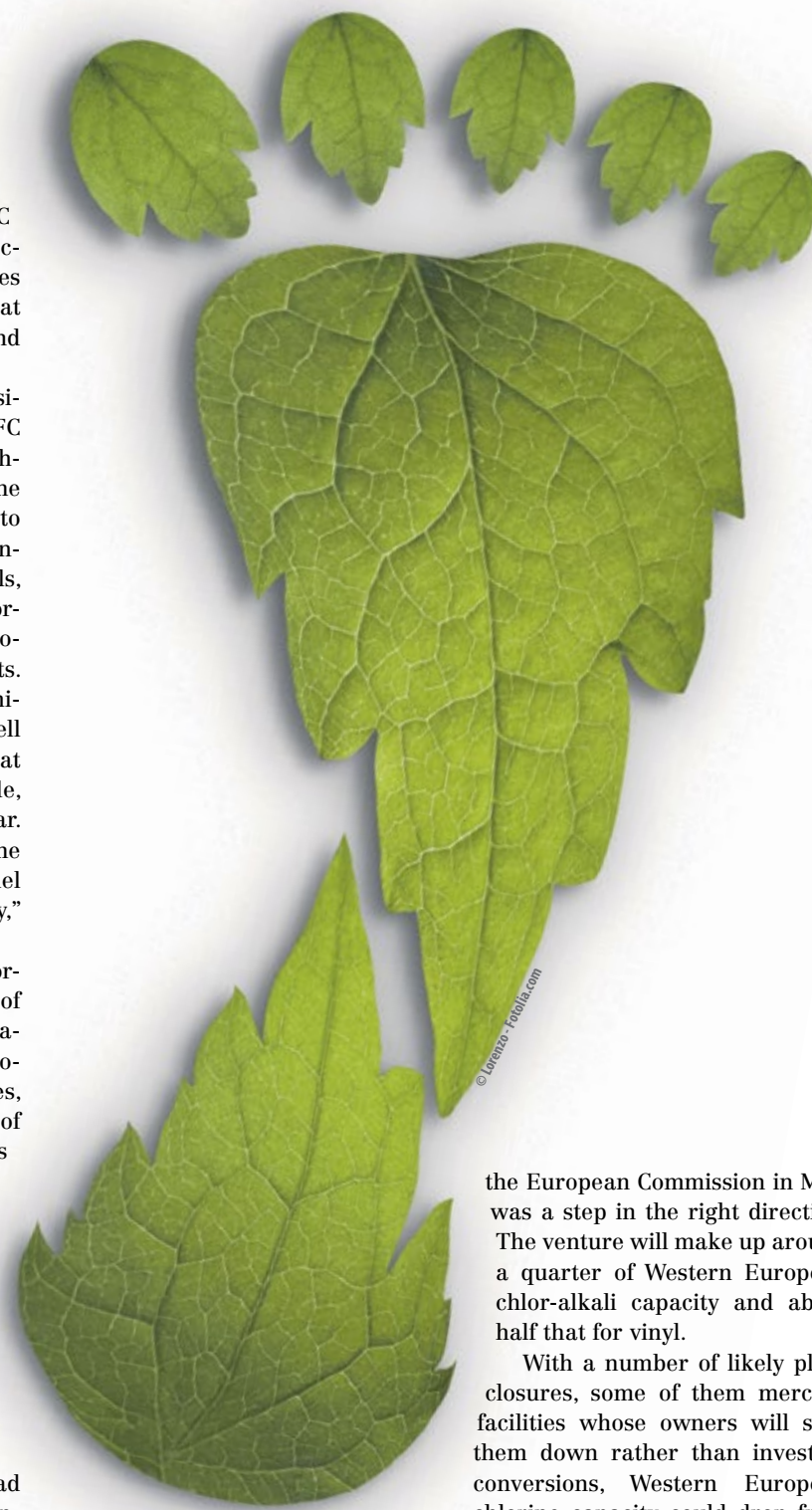
The total savings through conversion of mercury to membrane processes, now accounting for around two-thirds of European chlor-alkali capacity, depends on how much of the old plant is retained. With a large proportion of conversions, the brine system and existing cell rooms are being reused, said Christophe Noeres, deputy chief executive of ThyssenKrupp Electrolysis. As the European sector moves to more advanced technologies, one option was the installation of radical new systems such as the oxygen depolarized cathode (ODC) technology,

developed jointly by ThyssenKrupp and Bayer MaterialScience (BMS). In a demonstration plant at Krefeld-Uerdingen, Germany, it consumed 30% less energy than conventional processes. The ODC technology adds oxygen to the electrolysis process, which suppresses the formation of hydrogen so that the only products are chlorine and caustic soda.

Robert Kelly, international business development manager at AFC Energy, a UK-based fuel cell technology company, pointed out the opportunities for adding value to the hydrogen output of conventional chlor-alkali plants. Fuel cells, using excess hydrogen from chlor-alkali units, can, for example, provide electricity to power the plants. Under a project with Dow Chemical and Air Products, AFC fuel cell technology is due to be installed at a Dow chlor-alkali facility at Stade, Germany, by the end of this year. The scheme will help "deliver the concept of economically viable fuel cells for the chlor-alkali industry," Kelly predicted.

Upgrading membranes in chlor-alkali plants is another means of cutting costs. Yuji Sekiguchi of Asahi Kasei Chemicals of Japan, pioneers in ion exchange membranes, listed at the conference a range of membrane-surface enhancements by his company, including coatings with higher tolerance of impurities, more efficient and stable polymers, and reinforcements to cope with lower voltages with higher current efficiencies.

As a long-established center for the development of electrolysis technologies, Europe also has the task of keeping ahead of innovators in the emerging economies. "Our vision is to become a global leader in energy-saving electrolysis," said Sian Wang of Bluestar Chemical Machinery Co., Beijing, which has now been supplying ion-exchange membrane electrolyzers



the European Commission in May, was a step in the right direction. The venture will make up around a quarter of Western European chlor-alkali capacity and about half that for vinyl.

With a number of likely plant closures, some of them mercury facilities whose owners will shut them down rather than invest in conversions, Western European chlorine capacity could drop from 11 million tons a year to 9-10 million tons a year, raising average operating rates from just above 80% to just above 90% by 2018. At the same time, however, there could be a rise in imports, especially of caustic soda, from North America and the Middle East, where producers will have the advantage of low energy costs. "Europe will change from being traditionally a net exporter of chlor-alkali products to a net importer," Brown said. "Imports could rise from around 300,000 tons a year to around 600,000 tons by 2018, with the highest proportion, of about 40%, coming from North America."

Nonetheless with the anticipated steep rise in operating rates, Western European chlor-alkali players will have the satisfaction of enjoying much healthier margins, which will put them in a stronger position to invest further to compete against increasing imports.

Sean Milmo, freelance science and business journalist, Essex, United Kingdom

for over 30 years and is one of the world's biggest chlor-alkali electrolyzer producers. Its present R&D program includes the development of technologies in chromic salt and sulphate electrolysis and circulating water micro-electrolysis. One objective is the use of oxygen cathode electrodes to reduce the average electrolysis cell voltage of around 3V to 2V, Wang said.

Market Adjustment

In addition to making its chlor-alkali production technologies more cost-effective, the European sector needs to consolidate so that a pie chart of European chlor-alkali capacity does not show producers "packed in like sardines," said Brown of IHS. Currently, Ineos, Solvay, Dow, AkzoNobel and BMS account for around 60% of Western European capacity with the remaining 30 players composing the rest. The planned creation of a chlor-alkali joint venture by Ineos and Solvay, which was approved by



In May, AkzoNobel inaugurated its new chlorine membrane electrolysis plant in the Industrial Park Höchst, Germany (photo on the left). The state-of-the-art plant (rendering on the right) is the result of a major conversion and expansion project begun in 2011 and involving a €140 million investment. The facility has been converted from mercury cells to the latest-generation membrane technology. Capacity has been increased by 50% whilst at the same time reducing the plant's overall ecological footprint by some 20%. Radical efficiency improvements reduce energy consumption by 30% per ton of product. The facility is one of three chlorine plants operated by AkzoNobel in Germany, the other two being located in Bitterfeld and Ibbenbüren (c.f. the news below).



Evonik and AkzoNobel Mull Membrane Electrolysis JV

Evonik and AkzoNobel are discussing plans for joint construction and operation of a membrane electrolysis plant for potassium hydroxide solution and chlorine at AkzoNobel's site in Ibbenbüren, Germany. Talks about the proposed JV are scheduled to be concluded some time this year.

EU legislation requires that production of potassium hydroxide solutions with the mercury electrolysis technology currently in use in many places must be phased out by 2018 and replaced by the membrane electrolysis process.

Evonik is a major European producer of hydroxide solutions and derivatives as well as a globally leading provider of alkoxides, which are

manufactured by electrolysis at its Lülldorf site.

The new membrane electrolysis facility at Ibbenbüren would have nominal annual capacity of around 130,000 t/y of potassium hydroxide solution and 82,000 t/y of chlorine. The start of production is projected for the third quarter of 2017.

Under the plans being discussed, AkzoNobel would handle marketing of chlorine and hydrogen or process the substances directly at the Ibbenbüren site. Evonik would be responsible for marketing and further processing of potassium hydroxide solution at Lülldorf, where the chemical is used as a feedstock for potassium carbonate. (dw)

Chevron Phillips to Expand Alpha Olefins Unit in Texas

Chevron Phillips Chemical (CP-Chem) will expand normal alpha olefins (NAO) production capacity at its Cedar Bayou plant in Baytown, Texas by 100,000 t/y. Completion is expected by July 2015. The project will use CP Chem's proprietary NAO technology.

"This investment decision reflects Chevron Phillips Chemical's strategy to leverage North American shale gas development by continuing to grow our US-based olefins and polyolefins footprint," said Mark Lashier, executive vice president olefins and polyolefins for CPChem. (dw)

BioAmber Secures \$7 Million Grant

US biotechnology pioneer BioAmber has nailed down a \$7 million grant to support the ongoing construction of a \$135 million bio-succinic acid plant to go on stream in early 2015 in Sarnia, Ontario.

The grant from Sustainable Development Technology Canada (SDTC) is on top of a \$7.5 million grant SDTC provided to BioAmber Sarnia in 2012. (dw)

LG Chem to Build Electric Vehicle Battery Plant in China

LG Chem has announced plans to build a plant for electric vehicle batteries in China. The Nanjing facility, which the South Korean company said would cost hundreds of millions of dollars and generate combined sales of close to \$1 billion by 2020, is expected to go on stream in 2015.

LG Chem currently has a plant in Nanjing, producing small batteries and displays for smartphones and other mobile devices. It also operates EV battery facilities in Korea and the US. (dw)

Braskem Plans PE Unit in Texas

Braskem is to build a new plant for ultra-high molecular weight polyethylene at its La Porte, Texas, site. The Brazilian petrochemicals giant invests about \$34 million, capacity details were not disclosed. Construc-

tion on the plant will begin in Q3 of 2014, targeted start-up date is H1 2016. Output of the facility, which will complement an existing plant at Camaçari in Brazil, is earmarked for the US market. (dw)

Foundation Of Trust

What Are Chemical Distributors' Expectations of Their Suppliers Today?

Distributors face growing pressure to invest in technical expertise, formulation labs and regulatory setup to meet increasingly demanding industry requirements. To ensure that these investments are profitable, distributors need to develop long-term relationships with suppliers for sustainable business development. Which factors are therefore required to create a successful distributor-supplier relationship?

In recent years, the chemical industry has gone through many changes. Growing regulatory hurdles and a continuing outsourcing trend, combined with ongoing consolidation among distributors and chemical producers, have led to increased complexity and influence the relationship between suppliers and distributors.

To achieve sustainable growth and compete successfully in this challenging business environment, a closer collaboration between distributors and suppliers is therefore crucial.

Distributor-Supplier Relationship

Before the 2014 European Association of Chemical Distributors' (FECC) Annual Congress in Rome, DKSH, a leading market expansion services provider, in collaboration with FECC, conducted an online survey on distributors' expectations of suppliers. This survey, which focused on representatives of Euro-

pean chemical distribution organizations, was created to capture and understand their views on how to improve the relationship between distributors and suppliers.

The survey carried out in March 2014, asked participants to rank their business expectations and deliverables of the distributor-supplier relationship by importance within the following six categories: product offering, culture and strategy, services for distributors, communication and information flow, contractual points, and structure and presence.

The following examples provide a first insight on the content of the survey. In the category product offering, which was ranked highest among the six categories, a supplier

with an attractive product portfolio and/or attractive technical solution was rated the highest. When it comes to services for distributors, the most important expectation is to ensure that technical sales experts are well trained by the suppliers in order to function as an extended sales force. With regard to contractual points, the top expectation is written and agreed exclusivity in terms of geography and application.

Two Groups of Expectations

Upon evaluating the results of the survey, it was discovered that dis-



Thomas Sul, Member of Group Management, DKSH

tributors' expectations could be clustered into two basic groups: "hard facts" and "soft values." "Hard facts" refer to traditional expectations such as the product offering or contractual topics. These "hard facts" are measurable and form the basis for any business relationship between a supplier and a distributor. On the other hand, "soft values" are not measurable and require a long-term investment in the relationship, meaning that they are built up together over time. Examples of these include trust and

Hard facts	Soft values
<ul style="list-style-type: none"> Product offering, competitive pricing Written contract, exclusivity Service/training provided to distributors Product positioning Regulatory compliance of products 	<ul style="list-style-type: none"> Trust and reliability Customerlike treatment Partnership approach Regular and meaningful communication Teamwork (channel and key client management)

tance of the expectations did not vary much based on the participant profile, nor did company size or geographical coverage make a difference. However, some diverging expectations occurred in the category communication: Bigger companies (more than 501 employees) found it more important that the supplier shared "market insights and product strategies." This might be because larger companies have often dedicated staff for market and business intelligence; hence the provided market insights will actually be processed.

As a conclusion of the survey findings, efforts on both sides are required to develop the distributor-supplier relationship from a transactional level to a real partnership level. Both parties need to invest and have an agreed long-term goal, only this can lead to long-term cooperation. The "hard facts" remain important, the "soft values," however, are even more crucial to turn a collaboration into a successful, sustainable relationship.

Formation of a Solid Partnership

There is a clear trend in the industry toward investing in teams that work specifically on creating successful interactions and strengthening the relationships between both sides. Several blue-chip chemical companies have put in place "channel-management" structures, with managers who develop insights into the distribution industry and who closely interact and network

with distributors. This highlights the growing awareness of the importance of distribution services by these large manufacturers.

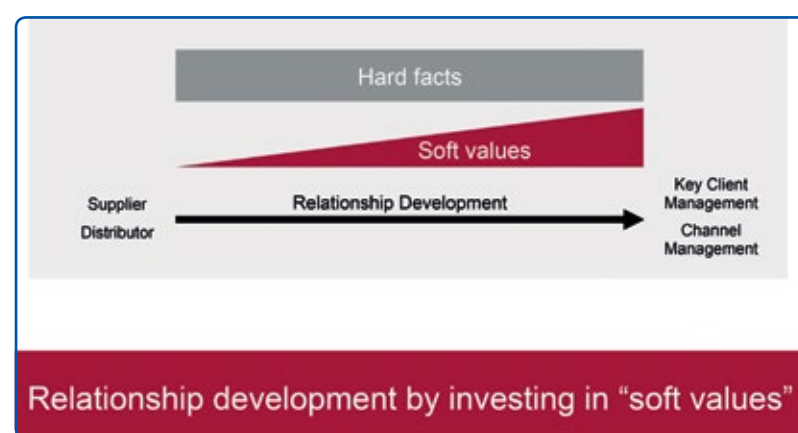
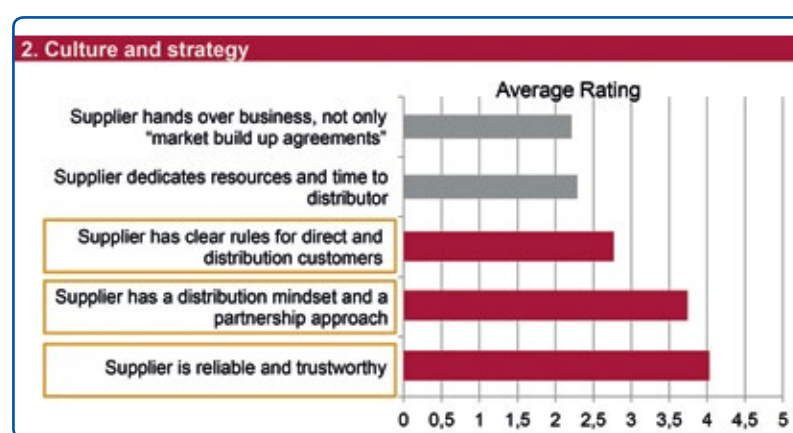
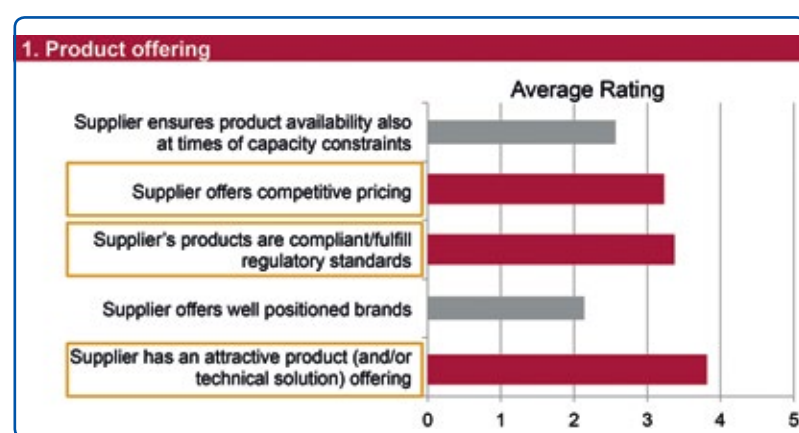
On the side of distributors, there are more and more specific resources employed to build and develop relationships toward key suppliers, the counterparts for channel managers.

"In the case of DKSH, we have created a function called 'Key Client Management,' which is fully dedicated to developing our business with our major partners. This function provides the supplier with a single point of contact and coordinates all efforts internally across industries and markets. This creates and establishes a common strategy with the supplier to jointly grow the business over a long period of time," said Thomas Sul, co-head, Business Unit Performance Materials at DKSH.

In conclusion, it all comes down to building a relationship that goes beyond selling products and adding more value to a business. A partnership between equals is the basis for being successful in a market, together.

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A Sustainable Partnership

Collaboration of Chemical Companies with Distributors

CHEManager International asked Michael Sauer, Director Channel Strategy & Distribution, Europe, Celanese, and Dr. Jürgen Frisch, Head of Channel Management, Wacker Group, about the reasons for the cooperation of their companies with chemical distributors and the key criteria for the selection of a distributor partner.

CHEManager International: What are the advantages for your company of cooperating with chemical distributors?

M. Sauer: Our vision is to be the first choice chemistry solution source to our customers. In order to fulfill this



Michael Sauer, Director Channel Strategy & Distribution, Europe, Celanese

goal, it is critical that our customers have access to Celanese products and support, regardless of location. Naturally, there are places where our customers may be located where our employees are not present, or destinations where the company cannot fulfill certain logistical criteria in an economical way. It is in these types of situations where we rely on the capabilities of our select distribution partners who also oper-



Dr. Jürgen Frisch, Head of Channel Management, Wacker Group

ate with the same guiding principles of Celanese, that being, customer satisfaction and value creation.

J. Frisch: There are several advantages. For instance, distributors provide access to emerging markets and regions which are interesting to us, but which we haven't fully developed yet in terms of local sales teams or offices. Chemical distribution partners help us to enter these markets and

to find the most effective and efficient ways to address the needs of our customers there. Distributors are therefore much more than logistics providers. They also help to reduce lead times by making stock and smaller product quantities available locally and by offering one-stop shopping. Most of our distributors also offer expertise and support to develop local formulations. They also help to unify payment terms and make money collection easier. Last but not least, distributors act as trend scouts for local markets and therefore provide valuable information when entering new markets.

In which business areas do you work together with chemical distributors?

M. Sauer: Celanese works with select distributors across most of its

business lines. Specific distribution partners can vary from a more commodity or logistics-oriented cooperation, for example, in the case of solvents to a very close relation encompassing collaborative technical efforts to meet customer needs, as is the case with our engineering materials business.

J. Frisch: We partner with distributors in all business areas of our chemical divisions. We collaborate globally, but the business models are always adjusted to the regional markets and to the needs of the local industry.

What are the main criteria to select the best distributor for your needs?

M. Sauer: Since Celanese has a variety of business lines ranging from

intermediate chemistry, emulsion polymers to engineering materials and food ingredients, we evaluate potential distributors based on criteria relevant to our specific business needs. Therefore, we developed and utilize an individual selection criteria tool that takes into consideration numerous elements including but not limited to geographical coverage, technical capabilities, depth of knowledge of sales representatives, marketplace reputation, complementary product portfolio, non-competing products in range, business ethics and many more.

J. Frisch: The requirements most important to us are compliance with our company guidelines, expertise in the relevant fields of specialty chemicals, a beneficial product landscape for our products, and transparency, just to name a few.

Multichannel Excellence

The Competitive Factor for Pharma — Despite Innovative Products

The global pharmaceutical industry continues to evolve from the blockbuster era to the outcome era.



Dr. Axel Sinner,
Camelot Management Consultants

This shift entails many changes. Just to name a few: changes in R&D strategies, limited increase of the effectiveness of the classical sales-force setup, or changing information needs and behavior of physicians. To keep pace, pharmaceutical marketing has to adapt to the need for more sophisticated communication of benefit proof. Physician-access limitations are affecting how companies can market their drugs today and in the future. Pharma marketing must shift from simply attracting attention to providing value.

Historically, pharma bet on the traditional sales rep/share-of-voice models, relying on brand-centric promotion strategies. But today — it has been addressed so many times it has almost become a cliché — pharma needs to become customer-centric. Only, customer-centric marketing must not be mistaken for simply installing digital channels in addition to traditional ones. Customer-centric multichannel marketing is a value-added approach, focusing

on delivering customized messages via integrated channels to meet the needs of individual physicians.

Before the magic of multichannel excellence (MCEx) can unfold and bear tangible results, the industry needs to further embrace the multichannel mindset. The key premise of multichannel marketing is about reaching physicians through their preferred channels, exploiting their receptiveness in a way that influences them as much as possible.

To give physicians what they want on an individual level, how they want it and when they want it, significantly increases the chances that they will respond. Efficiency and influence are considerably increased when switching from a broad, unspecified, uncoordinated multichannel mix to a customized, integrated channel selection and next-best offers.

The next-best offer reflects a customer-centric marketing paradigm that coordinates a company's specific product requirements and business objectives with the needs, preferences and behaviors of individual physicians. The preference and receptiveness for a next-best offer vary depending on the current state of mind and interactions.

Magic of Multichannel Excellence

What exactly is the magic of multichannel excellence? The three Cs of multichannel excellence: customer insights, channel orchestration and campaigns.

Clearly multichannel management in the pharmaceutical industry hasn't reached its full potential by

More Information

Order a free copy of the Camelot study on Multichannel Excellence at: www.camelot-mc.com/surveys

Register to participate in the PHARMA Management Radar studies: www.pharmamanagementradar.com

far. But what would excellent multichannel marketing look like?

Camelot's multichannel excellence approach means efficiently serving physicians with highly customized messages tailored to their current needs and receptiveness through a preference-based mix of channels.

Thus, multichannel excellence is first about the identification of customer characteristics and preferences. It then has to focus on the development of predictive models to identify their current status (state of mind) and to anticipate needs and behavioral changes. All this finally leads to the provision of valuable next-best offers for individual physicians and ultimately establishes a dialogue within an integrated channel mix.

Customer Insights

Doctors differ in their personal preferences, be it their particular preferred channel for information search and processing behavior, channel selection and use, their preferred mode and intensity of communication, etc. Other factors such as specialization, level of disease understanding, practice setting or patient demographics also influence physicians' preferences for interaction.

Pharma needs to know what sort of information is important to which physicians and needs to figure out the circumstances that might trigger a change in (prescribing) behavior. All these characteristics are essential components to determine the next-best offer.

Fortunately, most channels allow feedback on behavior, acceptance and preferences. Consequently ideal multichannel management enables a bidirectional data exchange between pharma and physicians and offers third-party feedback on relevant physicians' activities. Not many companies collect these physician data yet and even fewer are able to derive a next-best offer based on the available insights. As every good conversation starts with good listening, pharma first needs to develop a deep understanding of its customers.

Thus, a common understanding of doctors' needs, preferences and receptiveness requires new, sophisticated ways of deriving and using data. On the basis of physician information, which should be, of course, compliantly collected, analytics/predictive models can apply tactical business rules to select the optimum channels, offers and messages for individual physicians.

Channel Orchestration

To effectively coordinate and execute multichannel marketing, channel integration is an imperative. This integration of all channels and all customer interactions inevitably requires new organizational structures.

A look at companies' operational multichannel management shows that responsibility for a consistent and individual customer experience (content and timing) does not lie with only one, exclusive coordinator for every physician. This lack of a dedicated champion or coordinator seems to be a significant stumbling block.

When setting out for multichannel excellence, a company needs to implement clear governance and ownership over each physician account. And it needs to invest in IT resources that track physician profiles and journeys, next-best offers

and interactions. In tandem, this will allow companies to realize a coordinated approach — from an overarching functional coordination of channel selection to the coordination of medical, legal, marketing content approval to the timing of the next-best offer or the management of third parties.

Campaigns

The goal of multichannel excellence is turning insights into a relevant dialogue. The more relevant and engaging the communication, the more likely doctors are to read and respond. Sending physicians on such an engaging journey and continuously delivering a story of consistent, valuable content sure is a challenge.

Campaigns are designed to achieve a specific purpose and to tell one coherent story, whether it is raising awareness for an upcoming launch, increasing physician knowledge about a disease state, triggering prescribing to grow market share, etc. Each piece of information needs to be tailored to the channel.

Once a campaign is launched, the channel/communication mix for each physician can be optimized using intelligent business rules based on conveyed and observed preferences and needs. Such incremental learning allows multichannel marketing to be more targeted than ever before and to become smarter about how to connect to physicians. Eventually, excellent multichannel marketing is directing physicians toward a status of loyalty via customized next-best offers.

Furthermore, companies must avoid bombarding customers with untargeted offers or even inconsistent messages, leading to a poor experience for customers and worst case to a cut off in engagement.

Camelot has performed a survey collecting the assessment from relevant executives, showing that pharma marketers are well aware of the magic of multichannel excellence. Nevertheless there are essential hurdles for fully and successfully implementing MCEx as it requires a complex transformation of strategy, organization, processes and IT systems. As with any large transformation, success is not easily achieved. Implementing multichannel excellence means facing many and varied challenges. But it is time to take action.

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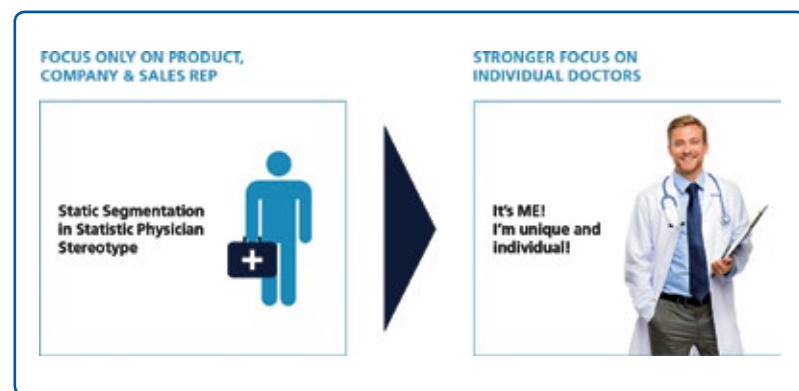


Fig. 1: Recognize doctors as individuals and their individual needs



Fig. 2: The three Cs of Multichannel Excellence



Fig. 3: Call for action

Mylan to Pay Abbott \$5.3 Billion for Non-US Business

Generic drugmaker Mylan said it plans to acquire Abbott Laboratories' branded specialty and generics business in developed markets outside the US for \$5.3 billion. Both companies are US-based.

The buy gives Mylan a wide array of Abbott brands that have annual sales of almost \$2 billion in those markets, including gastroenterology drug Creon, pain drug Brufen and influenza vaccine Influvac.

The deal has been structured to help Mylan reduce its tax bill by moving its tax address outside the US, a process known as inversion. The company with headquarters in Pittsburgh, Pennsylvania, unsuccessfully pursued the Swedish drug maker Meda this year in hopes of engaging in an inversion.

The transaction foresees Abbott taking a 21% stake in a new company that combines Mylan's existing business with its own devel-

oped markets pharmaceutical operations in Europe, Japan, Canada, Australia and New Zealand.

Abbott will continue to sell its branded generics in emerging markets, where strong sales growth is expected because of rising numbers of middle-class patients. By contrast, its sales of generics in developed markets have been steadily declining in recent years due to price pressures in Europe.

The drugmaker said it plans to relatively quickly sell its stake in the new company and use the proceeds to boost earnings, possibly by acquiring more medical devices or buying back shares.

A successful transaction would give Mylan a portfolio of more than 100 specialty and branded generic pharmaceutical products in five major therapeutic areas including cardio-metabolic and gastrointestinal. (dw)

Novartis and Banner in Alzheimer's Genetic Predisposal Study

Novartis is collaborating with Phoenix, Arizona-based US non-profit Banner Alzheimer's Institute (BAI) on a clinical study to determine whether two of the Swiss pharmaceutical giant's investigational anti-amyloid treatments can prevent or delay the emergence of symptoms in people identified as being at genetic risk for developing the late-onset form of the disease.

The study funded with a \$33.2 million grant awarded in 2013 by the US National Institutes of Health and supplemented by \$15 million from Banner, will involve more than 1,300 cognitively healthy adults, ages 60-75 who have a genetic risk of developing symptoms of AD because they inherited two genetic copies of the apolipoprotein E epsilon 4 (APOE4) allele.

About 2% of the world's population is believed to have this genetic profile, which is strongly linked to late-onset Alzheimer's.

In the trials planned to start in 2015 in North America and Europe, pending regulatory approval, the two Novartis drugs will be given via injection to cognitively healthy people at genetic risk of developing the build-up of amyloid protein in the brain that may eventually lead to the disease. Others will receive a placebo.

The Basel, Switzerland-based drugmaker believes it could take nine years before the studies show results. The work builds on Banner's Alzheimer's Prevention Initiative in collaboration with Genentech that began with a \$100 million study on 300 people in Colombia who carry a rarer form of genetic mutation triggering symptoms at the age of 45. (dw)

Qiagen and AstraZeneca Collaborate

Qiagen announced a collaboration agreement with AstraZeneca for the co-development and commercialization of a liquid biopsy-based companion diagnostic to be paired with AstraZeneca's targeted therapy for

non-small cell lung cancer (NSCLC), Iressa. The project aims to develop and market a novel Qiagen companion diagnostic that analyzes plasma samples to assess EGFR mutation status in NSCLC patients. (mr)

Roche Alzheimer's Drug Fails Main Goals in Mid-stage Study

Swiss drugmaker Roche said its experimental Alzheimer's drug failed to meet its main goals in a mid-stage study, a result likely to bolster the belief that drugs need to be given in earlier stages of the disease to slow patients' decline.

In a Phase II study involving 431 patients, it was found that the drug, crenezumab, failed to significantly slow cognitive and functional decline compared to placebo, missing two main goals. However, an exploratory analysis of patients with a milder form of the disease who received a higher dose of crenezumab via an intravenous infusion showed a statistically significant reduction in cognitive decline, Roche said.

Carole Ho, director of early clinical development at Roche's biotech unit Genentech, told the news agency Reuters she was encouraged by the data, even though it missed its main goals, since it demonstrated that treating the disease earlier could increase the benefit.

Ho said Roche would decide on any future plans for additional clinical studies following an analysis of the data in conjunction with health authorities.

Analysts had expected crenezumab to fail its main goals, after a similar treatment from Pfizer and Johnson & Johnson called bapineuzumab

and solanezumab, a drug from Eli Lilly failed in late-stage trials.

Lilly has since started a new clinical trial focusing only on patients with mild signs of the disease.

Crenezumab, which was licensed from Swiss biotech company AC Immune in 2006, works by blocking the toxic protein beta-amyloid that forms plaques in the brain believed to signal the onset of the disease.

Roche said a smaller Phase II biomarker study also showed an effect of slowing cognitive decline in milder patients. Details of this study will be presented at the Clinical Trials in Alzheimer's Disease meeting in November.

A startling 99.6% of clinical trials in Alzheimer's failed between 2002 and 2012, the Cleveland Clinic study found.

Crenezumab has been picked for a US government-backed trial in a group of Colombians with a genetic mutation that causes them to develop Alzheimer's early. Results of that trial are due in 2020.

A second Alzheimer's drug from Roche, known as gantenerumab, is also being investigated in a late-stage trial with patients who are yet to develop any signs of the disease. Another Swiss drugmaker, Novartis, has also begun studies with this type of patient. (dw)

Roche to Buy US Biotech Firm Seragon for Up to \$1.7 Billion

Swiss-based Roche Holding AG plans to pay up to \$1.73 billion to buy Seragon Pharmaceuticals, a privately-held US biotech company that researches breast cancer treatments.

Roche has long dominated the field of breast cancer with drugs such as Herceptin and recently won approval for Kadcyca and Perjeta, two treatments for patients whose cancer cells contain increased amounts of the protein known as HER2.

San Diego-based Seragon was spun off from Aragon Pharmaceuticals last year when that company was bought by Johnson & Johnson. It is focused on developing a new generation of oral medicines that may offer an improved way of tackling hormone receptor-positive breast cancer, and potentially other cancers.

Seragon's most advanced experimental drug, ARN-810, is currently

in initial Phase I clinical trials for breast cancer patients who have not responded to current hormonal agents.

The Basel-based drugmaker will pay \$725 million in cash and may hand over as much as \$1 billion more if Seragon achieves drug development milestones.

Seragon is the second notable acquisition in as many months for Roche, which bought privately held US gene-sequencing firm Genia Technologies for up to \$350 million in June, securing access to a technology that should allow it to decipher human genes more quickly at a cheaper cost.

The acquisition, expected to close in the third quarter, will provide an outlet for cash freed up after Roche paid down debt incurred in acquiring Genentech. (dw)

Belgium's Omega Pharma May Sell Itself

Belgian healthcare products distributor Omega Pharma is considering selling itself nearly three years after it was taken private by its founder, news agency Bloomberg reported.

A sale of the Nazareth, Belgium-based company could earn its owners more than \$4 billion, the agency said, citing sources.

Omega, which sells prescription-free medicines, healthcare products

and OTC items such as wart treatments and sun tan lotions, is said to have hired investment bank Morgan Stanley to handle the sale.

Founder and CEO Marc Coucke took the company private in 2011 with his \$1.1 billion takeover offer for the maker of painkiller Solpadeine. (dw)

Bayer to Keep Acquired Non-drug Merck&Co. Brands

Bayer HealthCare said it plans to keep consumer brands such as Dr. Scholl's and Coppertone it picked up in its \$14 billion buy of US Merck&Co.'s non-prescription drugs business in May. This is despite reports that other companies are keen to acquire the brands.

After winning the Merck&Co. prize over stiff competition, Bayer said its aim was to become a global leader in over-the-counter (OTC) medicines. Some financial analysts are question-

ing the rationale for Bayer keeping all of the businesses, however.

Offloading Dr. Scholl's foot care and Coppertone sunscreen products, which account for 27% of the Merck&Co. bundle's combined annual sales, would allow Bayer to focus on Merck&Co.'s core healthcare products such as allergy remedy Claritin and MiraLAX laxative and give it the resources to make the most of those brands, one analyst said. (dw)

Merck Extends Italian Alliance

Merck Serono is extending by two years its 10-year R&D cooperation with San Raffaele University & Research Hospital for Research in

Milan focusing on developing innovative therapies against serious and disabling neurological diseases such as multiple sclerosis. (dw)

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SUSTAINABLE CHEMISTRY

Sustainability: How the Cosmetics Industry is Greening Up

Editor | AMARJIT SAHOTA
President, Organic Monitor, London, UK

Sustainability has come to the fore in the cosmetics and personal care industry. Rising ethical consumerism and the need for resource efficiency are making cosmetic companies – small, independent firms to global giants – take steps towards sustainable development.

Sustainability: How the Cosmetics Industry is Greening Up discusses the growing importance of sustainability in the cosmetics industry, highlighting the various ways organisations can address the economic, environmental and social challenges. How can the cosmetics industry make a difference in terms of ingredients, formulations, packaging, CSR, operations, and green marketing?

Topics covered include:

- Environmental and social impacts of cosmetic products
- Ethical sourcing and biodiversity
- Renewable energy and waste management
- Green formulations and ingredients
- Green marketing issues and consumer behaviour
- Green standards, certification schemes and indices in the cosmetics industry

Industry experts share their experiences on how they are tackling the challenges of sustainability; from raw material procurements, manufacturing, business processes, to distribution and marketing to consumers. The book concludes with some future growth projections; what are some of the shortcomings in sustainability in the cosmetics industry and what can we expect to see in the future?

Sustainability: How the Cosmetics Industry is Greening Up discusses business and technical issues in all areas of sustainable product development, from sourcing ingredients, to formulation, manufacture and packaging. Covering a diverse range of subjects, this book will appeal to professionals in many key sectors of the cosmetics and personal care industry; cosmetic chemists, formulation scientists, R&D directors, policy makers, business and marketing executives. It will also be of relevance to academic researchers working in cosmetic chemistry and sustainable process development.

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A Sustainable Boost

Sales in the Chemical Industry - a Study Reveals Interesting Facts and Provides Target-Oriented Tips

A study themed "Sales excellence – Boost your sales power" conducted by Simon-Kucher & Partners together with CHEManager International reveals that chemical companies focus their sales activities primarily on the goals of either boosting profits or acquiring new customers. The approaches used to accomplish these goals vary widely among the chemical firms. Still, they have one thing in common: They both see the need for action and improvement.



Dr. Fabian Braun, Partner and Head of the Chemicals Competence Center, Simon-Kucher & Partners



Malgosia Zegar, Head of the study and senior consultant, Simon-Kucher & Partners



Ralph Ziegler, Consultant, Simon-Kucher & Partners

According to the managers responding to the survey, most companies have clear targets in sales and orientate their priorities and sales activities on them. They often run into trouble, though, when it comes to the individual steps of the operationalization. Most of the respondents say they know which levers need to be worked on, but they don't know how to go about it. Furthermore, those who do manage to implement improvements often fail to coordinate the diverse areas and end up with an ill-orchestrated sales process.

Effectiveness over Efficiency: Optimize Margins, Gain New Customers

Not surprisingly, top-line targets such as improving margins and gaining new customers are high on the list of sales objectives. While sales costs don't play a major role, almost all of the respondents admit that they want to deal with at least one of these topics.

The companies differentiate widely depending on firm size. More than three-fourths of the small companies (less than €50 million revenue) list customer acquisition as the most important sales target. In contrast, a similar number of large companies (more than €250 million revenue) say that improving their margins is

the No. 1 priority. This discrepancy is likely due to the fact that smaller firms want to increase their business through new customers. Large companies, however, are already nearing their growth limits and prefer to focus on tapping the profit potential of their current customer base.

Margin Focus: Approach Attractive Segments and Customers Even Better

Companies that concentrate on margin optimization reflect this in how they assess their sales process activities. They feel it is crucial to clearly define and prioritize target segments and customers — an im-

portant prerequisite for identifying margin improvement potential. What's more, they strive to create a differentiated sales strategy with which they can efficiently target the most attractive segments. Companies that want to boost margins also focus on optimizing their internal processes. Sales roles and responsibilities need to be clearly distributed; areas of expertise must be defined. To achieve sustainable process improvements, a win-loss order analysis is absolutely crucial.

And so, margin-oriented firms see the biggest need for action in areas with the most powerful levers for boosting profits. Aside from the

areas of market and sales strategies mentioned earlier, they also see customer value assessments as a decisive means of dealing with customers and thereby tapping their margin potential.

Gain New Customers: Improve Sales Campaigns and Processes

Firms that focus on acquiring new customers see sales campaigns and knowledge of decision-maker structures among customers as considerably more important. The latter is essential for a targeted approach to new customer acquisitions. Moreover, it's paramount for these companies that their working time is spent effectively and logically on core sales activities. Sales teams must have enough time for customer contact; internal resources should thereby be organized to facilitate this. Systematically preparing for and following up on customer visits is a vital component related to transparent processes. All of these factors help to optimize and professionalize the sales process. In these topics, along with customer development, firms focused on customer acquisitions see the biggest need for action. Smaller companies, that have the primary goal of gaining new customers, are often dependent on single sellers and still need to establish and professionalize their sales structures.

Sales is a Process and Must be Treated as Such

The various components of the sales process are closely related to one

another and should not be viewed in an isolated way. In practice, this is not always the case, though, and often single aspects fail in operations, as is evident in several examples. About one-half of the surveyed firms stated that they have defined and documented sales targets for target segments. Yet only one out of five of these firms use those targets to steer their sales team.

Another example can be found by looking at processes in terms of price negotiations and negotiation skills. For margin-focused companies, this is very important. Approximately half of the companies say that they have the expertise and an escalation scheme set up for price negotiations. At the same time, only one-third of these companies conduct sales and negotiation training seminars in their companies. This is a powerful example of how rules are set up internally, but the necessary operative support to implement them is missing.

Sales must be seen as a process — one in which various activities are often closely related and must be carefully coordinated to achieve the best possible results.

First Step Toward Strong Sales Teams

What should they do? As long as margins are the focus, companies first prioritize markets and manage them according to their profitability and potential. This is decisive to identify corporate sweet spots and to effectively deploy internal resources. To secure margins, it's just as impor-

tant to install efficient steering systems: The right KPIs (e.g., win-loss analysis) are as crucial as the right remuneration system.

For companies focused on gaining new customers, a clear and precise definition of growth segments is a step in the right direction. Sales structures and roles must facilitate a focus on customer acquisitions. These companies have to ensure that the sales team is 100% committed to acquiring new customers and not tied up with administrative tasks. Creating lists of targeted customers and requiring preparation and follow-up on customer visits ultimately encourage sales teams to share their experience and learn from one another.

Whether the focus is on boosting margins or gaining new customers, both company types must be clear about which pressure points need to be worked on. If it's unclear which areas need to be improved, an audit or a benchmark analysis of the sales process — available at www.simon-kucher.com/SalesStudy — can help to identify and approach the areas, as Figure 3 shows. Only then can the companies achieve a sustainable boost in sales.

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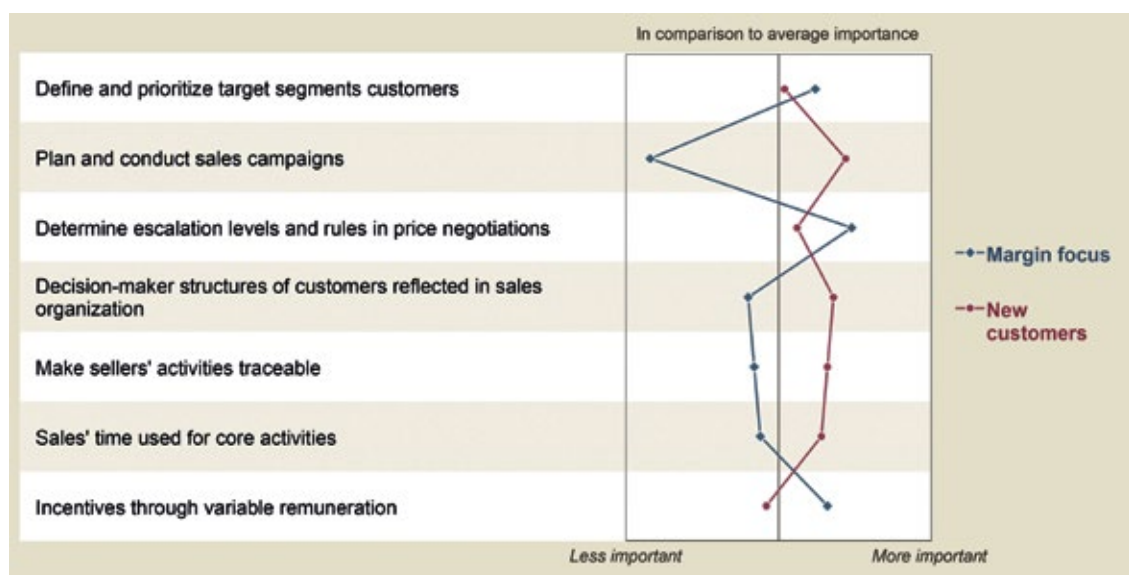


Fig. 1: Prioritization of sales activities (selection)

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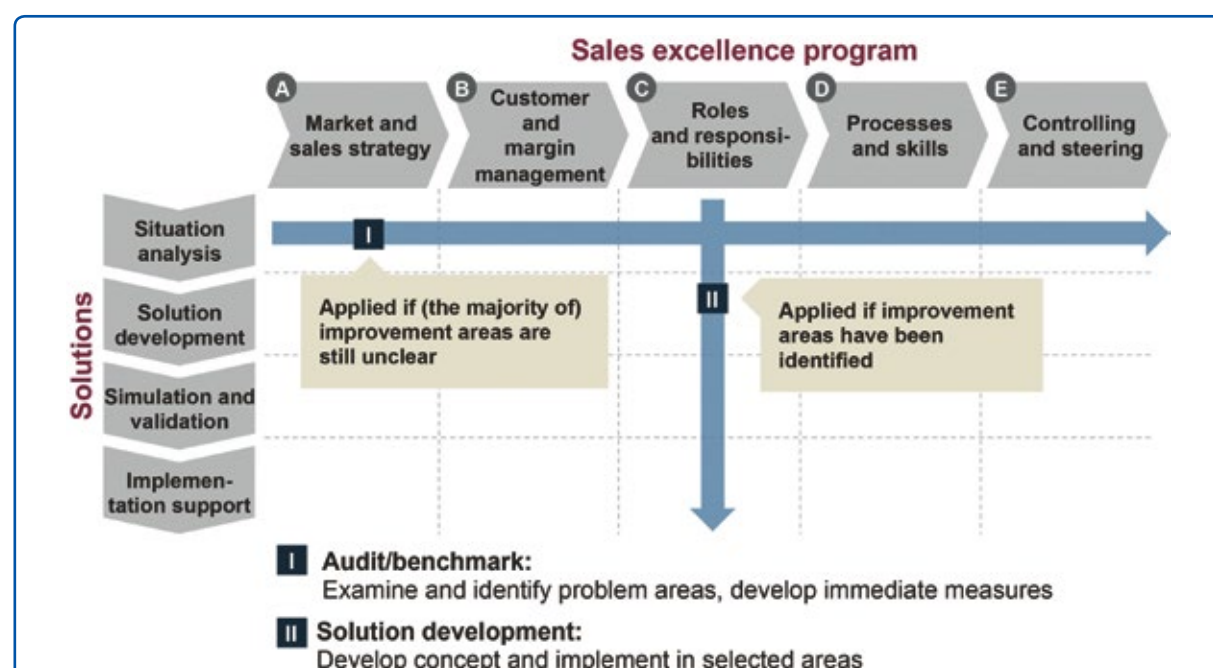


Fig. 2: Approach to boosting a company's sales power and achieving sales targets

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Overview of methods

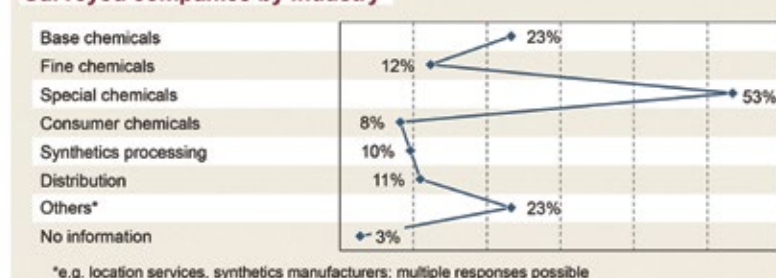
Data collection method: Online survey

Respondents/recipients: Companies in the chemical industry

Survey period: February - March 2014

Rücklauf: 73 completed questionnaires

Surveyed companies by industry



Surveyed people by position



Fig. 3: Summary of the study - overview of methods

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EVENTS

Indian Polyester, 5 August 2014, Mumbai, India

The event focuses on the challenges faced by the polyester & fiber intermediate industry. The industry has seen a lot of investments in capacity during the last few years and at present is facing significant challenges. The intention of the Indian Polyester series of conferences is to get all the major industry players on the same platform to discuss the present scenario and to take the industry on the forward path. The conference will focus on the following issues: business overview of the industry; fiber, staple & filament yarn; downstream developments including texturizing & spinning; developments in technical textile and export promotion.

► <http://www.eliteconferences.com>

Asian-European Biocides Regulatory Summit, 1-2 September 2014, Singapore

In some markets, biocides are regulated by one single regulation, while in other markets they are covered by several different regulatory acts. The European Regulatory Framework for Biocides - the Biocidal Products Regulation, 'BPR' - is applicable since September 2013. As a result of this new regulation, many new provisions, as well as transitional measures, are currently challenging companies who wish to produce or market biocidal products in the European Union. Following on from the BPR, many markets across Asia are currently restructuring and re-evaluating their regulatory framework for Biocides. This two-day summit offers a unique up-to-the-minute view of the regulatory changes, both in the European Union and across Asia and will also give a comparison of the regulatory systems across Asia.

► <http://www.eurobiocides.net>

Nordic Life Science Days, 7-9 September 2014, Stockholm, Sweden

SwedenBIO, the Swedish life science industry organization, Oslo Cancer Cluster, Toulouse Cancer-Bio-Santé Cluster and European Cancer Cluster Partnering, in conjunction with sister organizations in Denmark, Finland and Norway, host the second Nordic Life Science Days event. This year sees the largest Nordic life science event, launching the first Ernst & Young Nordic Life Sciences Report and the second Nordic Stars Award ceremony. The Nordic area has focused academic resources and support from both the local investment community and government, making it a prime European life science hotspot. Nordic Life Science Days will showcase the region's best in pharmaceuticals, biotechnology, medtech and digital health industries. Key presentations include: Cardiovascular and Immunology - The Future of Therapies in Cardiovascular Disease and Regenerative Medicine; Early Stage Oncology Opportunities; Medical Needs and Recent Trends in Neuroscience.

► <http://www.nlsdays.com/>

20th International Solvent Extraction Conference 2014, 7-11 September 2014, Würzburg, Germany

The 20th event in the global series covers solvent extraction in applications such as mining, nuclear fuel reprocessing, metal extraction, process chemistry, and engineering. Academics, practical engineers, researchers and consultants from various economic sectors and scientific disciplines, connected by the interest in solvent extraction, are invited to discuss latest results, new technologies and experiences in successful applications of this technique and perspectives for the future. The topics cover industrial applications in mining, nuclear fuel reprocessing, chemicals, hydrometallurgy and metals processing. The program features applications in the extraction of natural products from plants, extraction on mini-scale and CFD applications.

► <http://events.dechema.de/isec2014.html>

Annual Moscow Refining & Petrochemicals Week, 8-11 September 2014, Moscow, Russia

The Moscow Refining and Petrochemicals Week is the best established and most popular downstream technology event in the Russia & CIS region. With its traditionally technically-strong programs, unrivalled access to the major players in the Russian Downstream sector and the highest quality networking opportunities Moscow Refining and Petrochemicals Week is attracting loyal regular followers as well as new delegates each year. It gathers Heads of Refining and Petrochemicals from Major Oil Companies, General Directors of Regional Refineries and Petrochemical Plants, Heads of Technical Departments, Project Directors, Licensors, Technology Solutions & Equipment Providers and many others.

► http://www.europetro.com/en/moscow_week_2014

EPCA 2014 Annual Meeting, 4-8 October 2014, Vienna, Austria

The annual meeting of the European Petrochemical Association (EPCA) provides a unique platform for the global chemical business community to network, discuss collaborations and developments and hear from an impressive line-up of world-class speakers. Participants not only have the opportunity to network with peers and discuss business development opportunities, they can also enjoy exclusive access to EPCA networking events and lounges, accommodation and meeting rooms at competitive prices. The list of eminent speakers includes Professor Joseph E. Stiglitz, Nobel Laureate and Economics Professor at Columbia University, Xavier Sala-i-Martin, Chief Economist & Senior Director at the World Economic Forum, Patrick Thomas, Chief Executive Officer at Bayer MaterialScience, and Graham van't Hoff, Executive Vice-President at Shell Chemicals, among others.

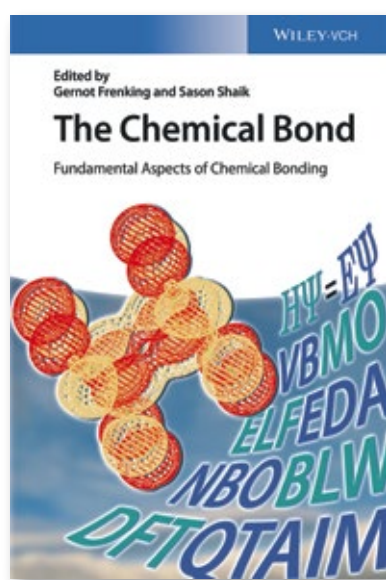
► <https://epca.eu/annual-meeting-workshop>

ASIA-TECH, 8-9 October 2014, Kuala Lumpur, Malaysia

With ever-increasing energy prices, applying best practice energy management techniques has more significance for refinery operators than ever before. The Asian Downstream sector is now experiencing a move towards integrated petrochemicals and fuels refinery complexes to maximize economies of scale and fully exploit the numerous integration opportunities available. There is also a continuing need for residue conversion solutions that utilize proven technologies to attract the financing required to fund capital-intensive projects. The event will cover the latest technologies and best-practice techniques for Refining, Residue-Upgrading and Petrochemicals and also include a focus session on Process Safety.

► http://www.europetro.com/en/asia_2014

The Chemical Bond: Fundamental Aspects of Chemical Bonding

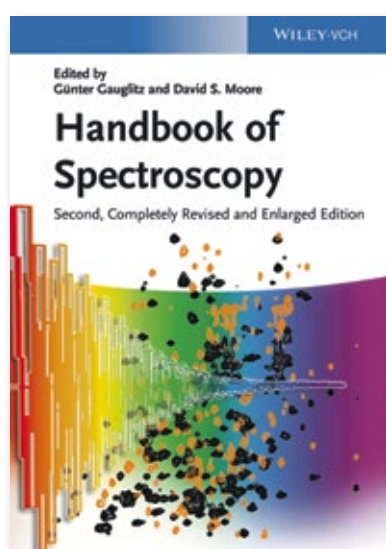


The way we envision a chemical bond has been revolutionized by advances in theory over the past few years. This book provides an overview of the approaches to modeling bonds, including molecular-orbital based, valence-bond based, ELF, AIM and density-functional based methods

► **The Chemical Bond**
Gernot Frenking, Sason Shaik
Wiley-VCH
Price: € 139.--
ISBN: 978-3-527-33314-1

Handbook of Spectroscopy

This second, thoroughly revised, updated and enlarged edition provides a straightforward introduction to spectroscopy, showing what it can do and how it does it, together with a clear, integrated and objective account of the wealth of information that may

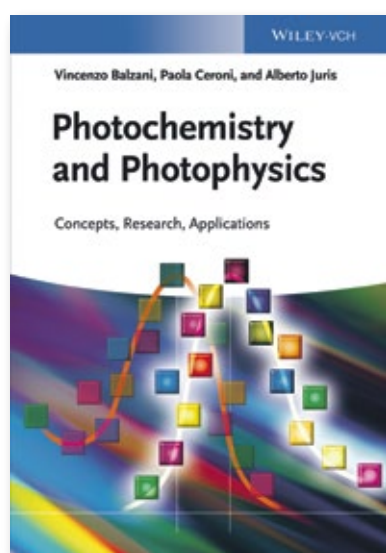


be derived from spectra. It also features new chapters on spectroscopy in nano-dimensions, nano-optics, and polymer analysis. Clearly structured into sixteen sections, it covers everything from spectroscopy in nanodimensions to medicinal applications, spanning a wide range of the electromagnetic spectrum and the physical processes involved, from nuclear phenomena to molecular rotation processes. In addition, data tables provide a comparison of different methods in a standardized form, allowing readers to save valuable time in the decision process by avoiding wrong turns, and also help in selecting the instrumentation and performing the experiments.

► **Handbook of Spectroscopy**
Günter Gauglitz, David S. Moore
Wiley-VCH
Price: € 549.--
ISBN: 978-3-527-32150-6

Photochemistry and Photophysics: Concepts, Research, Applications

This textbook covers the spectrum from basic concepts of photochemistry and photophysics to selected examples of current applications and research. Clearly structured, the

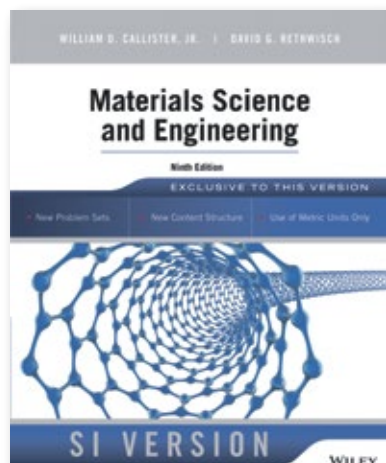


first part of the text discusses the formation, properties and reactivity of excited states of inorganic and organic molecules and supramolecular species, as well as experimental techniques. The second part focuses on the photochemical and photophysical processes in nature and artificial systems, using a wealth of examples taken from applications in nature, industry and current research fields, ranging from natural photosynthesis, to photomedicine, polymerizations, photoprotection of materials, holography, luminescence sensors, energy conversion, and storage and sustainability issues.

► **Photochemistry and Photophysics**
Vincenzo Balzani, Paola Ceroni, Alberto Juris
Wiley-VCH
Price: € 69.--
ISBN: 978-3-527-33479-7

Materials Science and Engineering

Materials Science and Engineering, 9th Edition provides engineers with a strong understanding of the



three primary types of materials and composites, as well as the relationships that exist between the structural elements of materials and their properties. The relationships among processing, structure, properties, and performance components for steels, glass-ceramics, polymer fibers, and silicon semiconductors are explored throughout the chapters

► **Materials Science and Engineering**
William D. Callister, David G. Rethwisch
John Wiley & Sons
Price: € 239.--
ISBN 978-1-118-31922-2

PEOPLE



Seifi Ghasemi

Seifi Ghasemi has been appointed as new chairman, president and chief executive officer of US industrial gases producer Air Products & Chemicals, effective July 1, 2014. Chairman and CEO of Rockwood Holdings since 2001, he succeeded John E. McGlade who retired on June 30. Prior to joining Rockwood, Ghasemi held a number of leadership positions at global industrial companies, including GKN Sinter Metals, and served in a variety of senior roles with British gases producer BOC acquired by German rival Linde in 2007. He is currently on the board of directors of EnerSys, and is chairman of the supervisory board of Chemetall.



Maëlys Castella

Maëlys Castella has been appointed as AkzoNobel's chief financial officer, with effect from September 15, 2014. She will be the first female CFO of one of the 25 companies on Amsterdam's main stock index and only the second woman to serve on the Dutch company's executive committee. The 47 year-old Castella succeeds Keith Nichols, who announced his intention to leave AkzoNobel at the beginning of the year. She has worked at French industrial gases producer Air Liquide for the last 14 years, most recently as Group Deputy CFO.



Dieter Weinand

Dieter Weinand will become president of Bayer HealthCare Pharmaceuticals and at the same time join the Executive Committee of Bayer HealthCare, effective August 1, 2014. He replaces Andreas Fibig, who will leave Bayer on September 1, 2014, to become CEO of International Flavours and Fragrances. The 53-year-old Weinand, born in Boppard, Germany is currently president global commercialization & Portfolio management at Otsuka Pharmaceutical Development & Commercialization, Princeton, New Jersey, USA. He has more than 25 years of experience in various commercial operative and strategic executive roles in the pharmaceutical industry, including stints at Pfizer and Bristol-Myers Squibb.



Sven Abend

Sven Abend has been named to the Executive Committee of chemical producer Lonza, effective July 1, 2014. CEO of Swiss chemical manufacturer and distributor Kolb since 2012, Abend will have primary responsibility for corporate strategy and business development as well as the business segments Consumer Care and Industrial Solutions. Abend began his career as a scientist with Unilever's Home & Personal Care division, and later worked for Cognis in Germany. Beat In-Albon will remain COO for Lonza's Specialty Ingredients segment focusing in particular on Agro Ingredients, Water Treatment and Wood Protection.



Ralf A. Spettmann

Ralf A. Spettmann has been appointed president of BASF's Construction Chemicals operating division in Ludwigshafen, Germany, effective September 1, 2014. Currently senior vice president, Pigments & Resins Europe at BASF, Spettmann will succeed Dr. Tilman Krauch, who is to join the Freudenberg Board of Management and the Freudenberg & Co. Management Board, with effect from October 1, 2014. Spettmann studied Business Administration at the Berufshochschule Stuttgart, Germany, and received his bachelor's degree in 1988. In 1992, he completed his master in Business Administration (MBA) at the IESE Business School, University of Navarra, Spain.

Frans J. des Tombe has been appointed as managing director of Azelis in Canada, effective June 2, 2014. He replaces Tony Craske, who is now based in Europe as International Business Director, Azelis Personal Care. Most recently, des Tombe was vice president of DSN Chemical Transportation, a third party logistics company specializing in the movement of hazardous materials and temperature controlled chemical freight. Prior to that, he spent over 25 years in various senior roles within Cognis Canada, which was acquired by BASF in 2010.

Luciano Rossetti (57) has been appointed by Merck Serono as executive vice president and global head of research & development with effect from July 2, 2014. He most recently was Senior Vice President Late Stage Development at Merck Sharp & Dohme (MSD), where he was responsible for the entire clinical development from Phase II to Phase V across all therapeutic areas. At MSD, he played a key role in shaping and implementing the development strategy of several potential breakthrough compounds, and also restructured the clinical genetics group to better leverage the collaboration between discovery and clinical development. The new R&D chief will be based in Billerica, outside Boston, Massachusetts, in the US, and will share his time between Merck's headquarters in Darmstadt, Germany, and Billerica.

Amir Elstein, currently vice-chairman of the board of Teva Pharmaceutical Industries, is believed to be appointed as its new chairman, activist shareholder Benny Landa has said. "I was informed by Moshe Many, Amir Elstein's predecessor as vice chairman, that the board has already decided that it will name Amir Elstein as the next chairman," Landa wrote in a blog. However, a spokesman for Teva, the world's largest generic drugmaker, told the news agency Reuters that no decision has yet been made, and that a committee is currently engaged in a selection process. If Elstein is chosen, he would replace Phillip Frost, Teva's largest individual shareholder with a 1.53% stake, who said last month he would step down as chairman by the end of this year.

Frank Coenen has been named new CEO at ASK Chemicals, the former joint venture of Clariant and Ashland that was acquired by investment group Rhône in spring 2014. Coenen, who previously served as CEO of Tessenlo Group, succeeds Stefan Sommer. Sommer served as CEO over the past four years and led many important accomplishments in that period, from the creation of ASK Chemicals as an independent business in 2010 to its successful sale to Rhône.

