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CHEManager EUROPE

THE NEWSPAPER FOR THE CHEMICAL AND LIFE SCIENCE MARKETS

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Mergers and Acquisitions

Roche dropped its bid to buy Illumina after shareholders made it clear that the terms were inadequate.

Nestlé is buying Pfizer's nutrition business for $11.85 billion, beating out French rival Danone as both battle to gain preeminence in the lucrative baby food market. Pfizer looks to focus on its core pharmaceuticals business.

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Markets and Companies

Solvay presented the group's strategic vision focused on value creation and its profitability ambition for 2016 seven months after the acquisition of Rhodia in September 2011.

BASF is realigning its research and is focusing even more strongly on the market and the global customer industries. By 2020, the group aims to conduct 50 % of its research and development outside Europe.

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Sales & Profits

DuPont delivered record first quarter earnings and sales of $11.2 billion, up 12 % versus the prior year.

Celanese said that its quarterly profit rose 29 % due to strong sales of chemicals used to make glues and fibers. For Q1, the company posted net income of $183 million, sales rose 2.8% to $1.63 billion.

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Investments

Dow will build a new manufacturing facility for its Dow Coating Materials (DCM) business unit.

BASF will invest €150 million to set up a new integrated chemical production site at the Dahej Petroleum, Chemicals and Petrochemicals Investment Region (PCPIR), located on the west coast of India in Gujarat.

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People:

At AkzoNobel, Ton Büchner has been appointed CEO. He took over the helm of the Dutch coatings and specialty chemicals company from Hans Wijers.

Univar has named J. Erik Fyrwald as president and CEO effective May 7. The former president of Ecolab succeeds John J. Zillmer at the helm of the chemical distributor.

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Global Mind with Local Focus

Biesterfeld's CEO Discusses Success Factors for the Chemical Distribution Industry

Chemical Connection – As a link between producers and customers in the complex supply chain of the chemical industry, chemical distributors are facing numerous challenges. In addition to matching supply and demand and delivering chemicals and formulations in a timely and safe manner, distributors have to offer additional services to their principals and buyers and earn a profitable margin in an increasingly competitive pricing environment. In recent years, compliance with tightened regulatory standards or sustainability and responsibility requirements have also become more relevant for the distribution sector. International distributors like the German Biesterfeld Group need to cope with this demanding business environment. In the course of more than 100 years of existence the traditional Hamburg trading house has developed into a group with worldwide activities in the areas of polymers, specialty chemicals, industrial and agrochemicals as well as pharmaceutical raw materials and agents. This product portfolio is complemented with a range of services in the fields of chemistry, logistics and related compliance management. Biesterfeld's CEO Birger Kuck, a speaker at this year's annual congress of the European Association of Chemical Distributors (FECC), elucidates the challenges and success factors for his industry.

"Globalization definitively has changed our business."

Birger Kuck, CEO, Biesterfeld

CHEManager Europe: Mr. Kuck, this year's FECC Congress' motto is "Sustainable and Responsible Distribution: The Formula for Success." How can chemical distributors turn this vague statement into concrete solutions?

B. Kuck: First of all, in a company like Biesterfeld with such an old tradition, sustainability and responsible behavior are fixed in our fundamentals. To achieve our aim — to be the technical leader together with our suppliers and customers in Europe — we have to distribute in a fair and responsible way with a comprehensive and long-term strategy without disregard for our values. In general, one essential factor and, of course, a formula for success for every chemical distributor is the product portfolio. It gets more and more important that the products are environment-neutral and smart. We consider production conditions and environmental behavior of our suppliers as well as effectiveness and environmental impact of the products. This can be realized with energy-saving products, which help to reduce energy and production costs. We also want to preserve resources; e.g., by optimizing transport logistics and systems we can reduce effort, protect the environment and reduce costs for our business partners as well as our costs. Likewise "green chemicals" become more important. These products and pre-products were won by recycling or in an eco-friendly way. The demand by the entire production chain is continuously increasing.

What other aspects are crucial for a global chemicals distributor?

B. Kuck: I see five central key success factors of every distributor. First, as mentioned before, there are the products. Second, the employees are very important. You need fitting know-how to satisfy your suppliers' and customers' needs. The right mixture of experienced specialists and own "new blood" is important for our success. We have no plants or brands, thus, we have to invest in our people. Third, suppliers are a central business factor. Finding and getting new suppliers is not easy. The relationship to our suppliers is long term and is fulfilled by trust, transparency and stability. It is important to install and develop relationship management across hierarchy levels and to build up a network within the supplier organization. The fourth key factor is the customer.

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Chemical Distribution in China

Service and Product Offerings Have a Lot of Growing To Do

Undeveloped Market – ICIS, a provider of marketing intelligence on the global chemical industry, published a report in July on the top global chemical distributors. Led by Brenntag with $10.1 billion in sales (2010), at the end of the list, there was a Canadian distributor named Interatlas Chemical with sales of $10 million. And not a single one of these 160 companies is headquartered in China.

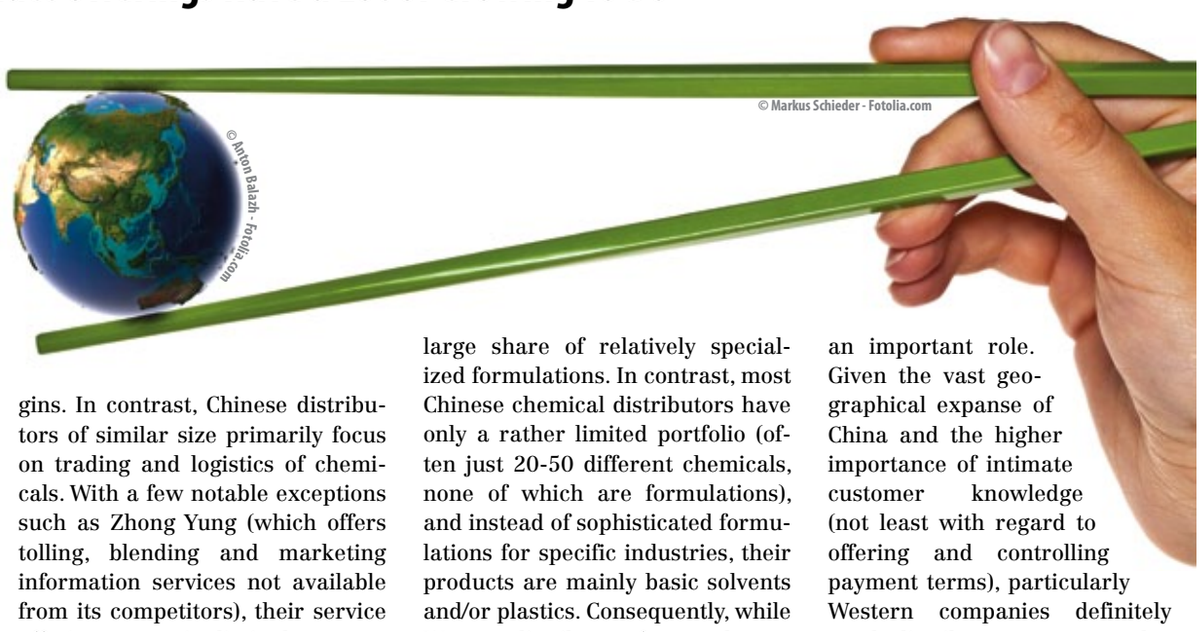
Numerous Chinese distributors have sales easily exceeding $50 million — companies such as Topship, Golden Bridge or the distribution arm of Sinochem. After all, the total Chinese chemical distribution market is estimated at €16 billion (2009), so it certainly has the size for bigger players. But apart from indicating the limited understanding of Asian chemical distribution markets in the Western world, the list may also be interpreted to illustrate a broader point, namely the immaturity of chemical distribution in China. A number of aspects are proof of this early development stage: the limited product portfolio of Chinese distributors, their limited focus on specific customer segments and industries, and, most importantly, their very limited service offerings.

At Your Service

Let us take a look at a smaller U.S. chemical distributor, Hubbard Hall, with 2010 sales of about $48 million, and compare this company to a typical Chinese chemical distributor. Despite the limited size, Hubbard Hall offers a broad range of services:

- Blending and packaging
- Customized formulations
- Storage and handling of chemicals
- Laboratory analyses
- Tank cleaning
- Safety training
- Process audits
- Drumless delivery services

Such service offerings are quite typical for chemical distributors in the developed markets and account for a large share of their sales and margins. In contrast, Chinese distributors of similar size primarily focus on trading and logistics of chemicals. With a few notable exceptions such as Zhong Yung (which offers tolling, blending and marketing information services not available from its competitors), their service offerings are quite limited.



Coming back to our example, Hubbard Hall provides a broad portfolio of materials including electronic chemicals, heat-transfer fluids, metal treatment and finishing chemicals, paint stripping chemicals, phosphate coatings, rust prevention chemicals, and water treatment chemicals. Again, this is a fairly typical portfolio for a Western chemical distributor, with its large share of relatively specialized formulations. In contrast, most Chinese chemical distributors have only a rather limited portfolio (often just 20-50 different chemicals, none of which are formulations), and instead of sophisticated formulations for specific industries, their products are mainly basic solvents and/or plastics. Consequently, while Western distributors frequently specialize in specific customer industries and try to offer them as broad a portfolio as possible, Chinese distributors are more driven by volume products and tend to focus on only the biggest customer industries.

An Undeveloped Market

This does not mean that chemical distributors in China do not have an important role. Given the vast geographical expanse of China and the higher importance of intimate customer knowledge (not least with regard to offering and controlling payment terms), particularly Western companies definitely need distributors to serve large market segments. However, at the moment, the distribution market may indeed be regarded as immature compared with Western markets. In China, most distribution is in price-sensitive segments with low margins (1 %-4 %) rather than in the higher-margin (5 % and above) segments in which services are important and which are much more important in Western distribution markets. The reasons for this difference are manifold. Chinese distributors prefer to focus on trading large volumes of a limited number of chemicals rather than on maximizing their margins.

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CONTENT

Israel Chemicals Buys Swedish Water Treatment Firm

BK Giulini, a subsidiary of Israel Chemicals (ICL), said its BKG Water Solutions division bought Tiami Vattenkemi, one of Scandinavia's largest water treatment companies, to boost its presence in northern Europe. ICL, a fertilizer and specialty chemicals maker, is the world's sixth-largest producer of potash. Tiami, a privately held company founded in 1991, provides industrial water treatment solutions, including chemicals, equipment and services. It also develops environmentally-friendly water treatment solutions.

"We intend to leverage Tiami's unique product range, strong distribution network and excellent service capabilities to boost our presence in Scandinavian countries," Eli Glazer, general manager of BK Giulini, said. Charles Weidhas, CEO of ICL's performance products division, said the purchase was in line with the company's strategy to expand its offering for the industrial water treatment sector, a rapidly developing market that has been building momentum over the last few years. ■

Sigma-Aldrich Acquires Research Organics

Sigma-Aldrich announced it has acquired all outstanding shares of Cleveland, Ohio-based, Research Organics, to expand the company's buffer production capacity and to increase its portfolio of PharmaGrade raw materials for the biopharmaceutical and diagnostic markets.

Research Organics is a supplier of high purity biochemicals for use in molecular biology, diagnostics, cell culture, pharmaceuticals, biopharmaceuticals, life sciences and biotechnology and will transition into SAFC, the custom manufacturing and services business unit of Sigma-Aldrich. Founded in the 1950's, Research Organics was a pioneer in manufacturing zwitterionic biological buffers and developing the HEPES buffer as an industry-standard. The company expects this acquisition to be neutral to earnings per share in 2012. ■

Roche Steps Back from Illumina Acquisition

Roche dropped its bid to buy the gene-sequencing leader Illumina after Illumina's shareholders made it clear at the company's annual meeting that the terms were inadequate. Roche had made a $51 per share tender offer for Illumina, but will allow the offer to expire.

Despite Roche's aggressive overtures, Illumina's management made it clear throughout the process that they had no interest in an acquisition. This was made apparent not only through strongly worded letters, but by Illumina's refusal to open the books and begin negotiations with Roche.

The Swiss pharma giant indicated that they would be willing to go higher in a negotiated deal, and they certainly have the means to do so. Considering Roche's goals for the acquisition, however, going hostile does not make sense.

Dr. Severin Schwan
CEO, Roche

What the company was looking for here was to add a new, innovative business unit that would maintain its own research and development organization. Illumina has an established product line and steady revenue stream, so Roche would have become a sequencing company.Taking all of these things into consideration, it is likely that Roche wanted Illumina CEO Jay Flatley and his team to continue to run Illumina. Going hostile would have alienated management and left employees disgruntled. ■

Nestle to Buy Pfizer Nutrition Unit

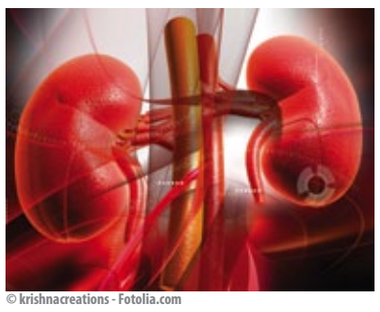
Swiss food group Nestle is buying U.S. drugmaker Pfizer's nutrition business for $11.85 billion, beating out French rival Danone as both battle to gain preeminence in the lucrative baby food market. Pfizer put its infant nutrition and animal health businesses up for sale last July as it looks to focus on its core pharmaceuticals business.

Nestle, the world's biggest packaged food company, was seen as a favored bidder due largely to its deep pockets, and is paying for the acquisition in cash. The Vevey-based firm expects the acquisition will generate sales of $2.4 billion this year and boost margins, thanks to its large exposure to emerging markets, where the population is growing quickly.

"Its strong brands and product portfolio, its talented people dedicated to the success of its business, together with its geographic presence – 85 % of its sales are in emerging markets – will complement our existing infant nutrition business perfectly," Nestle Chief Executive Paul Bulcke said. ■

Amgen to Buy KAI Pharmaceuticals

Amgen will buy privately held KAI Pharmaceuticals for $315 million to gain access to an experimental treatment for a common complication suffered by chronic kidney disease patients. KAI's lead product, KAI-4169, is being tested as a treatment for a condition known as secondary hyperparathyroidism (SHPT), which is suffered by patients with chronic kidney disease who are on dialysis. In connection with the agreement, Amgen has provided a loan to enable Phase III clinical development planning for KAI-4169 prior to closing. Through the acquisition, Amgen gains global rights to the drug, excluding Japan. The deal has been approved by KAI shareholders and Amgen's board of directors, Amgen said. ■



CVC Buys Stake in AlixPartners

Private equity company CVC Capital Partners has signed an agreement to acquire a majority stake in AlixPartners, a global business advisory firm. For the past six years, the majority interest in AlixPartners was held by Hellman & Friedman. AlixPartners' 125 Managing Directors will maintain a considerable equity stake in the enterprise that was founded in 1981 by Jay Alix. AlixPartners offers services in four major areas: enterprise improvement, turnaround and restructuring services, financial advisory services and information management services. ■

Watson, Actavis Aim for Deal

Watson Pharmaceuticals is on track to announce a deal to buy Actavis for around $6 billion by the end of April, creating one of the world's biggest producers of generic drugs. While negotiations are complex, there are no major hurdles in sight that would stop the two sides from reaching agreement, two people briefed on the situation said.

Reuters first reported on March 21 that Watson was close to buying Actavis, an unlisted Swiss-based firm, in a potential €5.0-5.5 billion ($6.5-7.2 billion) deal. Since then some sources have said the price may be nearer €4.5 billion.

The prospect of such a deal has been welcomed by Watson investors, who believe it would help the U.S. group to compete more effectively against rivals like Teva Pharmaceutical Industries and Novartis unit Sandoz. The deal would also get Deutsche Bank out of a hole, since the German bank was left holding billions of euros of Actavis debt after a leveraged buyout in 2007 by Icelandic tycoon Bjorgolfur Thor Bjorgolfsson. ■

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Global Mind with Local Focus

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You have to build up a trusting atmosphere and a close relationship to get problems solved and challenges managed. And last but not least, the distribution regions and knowledge about the regional developments are essential for every distributor. For anticipating new trends and handling challenges, it is indispensable to know the development of society, needs and infrastructure in the country. For instance, in our business area specialty chemistry we have to face the aging society and have to react to an increasing awareness for health, cosmetics, nutraceuticals and pharmaceuticals.

How has the role of chemical distributor evolved over the last years?

B. Kuck: The chemical market is still growing because of increasing demand for chemistry products in different industries. In line with this development the market splits up: a commodities market, characterized by logistic requirements and price sensitivity. No real service, expertise and know-how of the distributor are required. Opposite to this the market for specialty chemicals becomes even more service oriented. Customers expect their supplier to provide technical service, application support and specific chemical know-how. The distributor is an important development partner for the customer. The availability of laboratories becomes essential. In addition to this you can observe an increasing market consolidation in recent years. Twenty years ago, suppliers who worked together with one to three distribution partners all over Europe had a network of 20-30 distributors. We went through this development with a couple of our suppliers. DuPont, our supplier for engineering polymers, reduced its network of partners in Europe from 22 distributors in 1988 to two in 2012. While suppliers are reducing the numbers of their distributors, the demand from customers for a "one-stop-shop" increases. Suppliers and customers optimize their contacts and concentrate on one selected partner. To reduce efforts and optimize costs in the supply chain, suppliers use their distributor as technical service provider for their mutual customers. Distributors grow together with their suppliers and act for them pan-European. Biesterfeld followed these trends. We serve our clients with engineers, chemistry Ph.D.s and highly skilled product specialists. We organize training for the customers' employees and provide chemical laboratories to help the customers find solutions and innovations.

A slogan characterizing the distribution business is: "Think global, act local." How has globalization changed the face of the chemicals distribution business?

B. Kuck: Globalization definitively has changed our business. "Think global, act local" is also an important aspect of the Biesterfeld strategy. Centers of competence act globally with suppliers and multinational customers. Also purchase and logistics are centralized to be able to optimize costs and to improve the availability of each and every product all over Europe. To offer our service on a high level comparable to our quality standards, we have regional offices all over Europe. Regional closeness gives us the chance to be with our customers and to face new trends and challenges. We talk our customers' language, we invoice in local currency, and we offer local service and deliver from warehouses close to our customers.

> *The demand from customers for a "one-stop-shop" increases.*

This is the best solution for our suppliers to optimize the supply chain and customers for getting the best service possible.

Moreover, market and product trends are no longer locally limited. They have worldwide consequences, as seen during the 2008 crisis. So every distributor has to react to worldwide trends, the decreasing prices of commodity goods or the development of new megatrends. Another aspect is the financial background of the distribution market. More and more companies are controlled by financial owners, mostly by private equity. As an independent family business, we could observe that the priorities and aims had changed partly. In general, the strategic focus became more international and market-share driven. The size of our company allows us to combine the advantages of both: global mind with local focus.

How have the requirements of your principals and customers changed in view of the recent global financial and economic turmoil?

B. Kuck: For our suppliers and for our customers it is getting more and more important to work in a stable relationship. We realize it in the way to work together in a trustful and stable partnership, where problems and challenges are discussed in an open way. We believe that all parties involved are stronger when they work close together. This can reduce financial and economic risks — for us and for our partners. We recognize for many companies it is getting more important to work in a sustainable and responsible way together. Security and precautions became more important than the lowest cost because many suppliers and customers had bad experiences in the crisis of 2008-2009. Loyalty and business ethics have grown in importance.

According to a recent study, China and India are taking over important roles in both the import and export of chemicals. What does this mean for the European chemical distributors?

B. Kuck: The influence of China and India on the European market is essential. To be one of the biggest suppliers and customers at the same time has wide consequences to the whole industry. Of course the prices for the chemical goods are addicted to the consumption and the demand of Asia. If Chinese demand falls off — as it is doing now —trading levels to the world grow and in consequence prices all over the world — and especially in Europe — sink. Or the other way around, if Chinese and Indian demand grows, we in Europe have got problems to get the tonnage for our European customers. It's a real challenge to get the influence of China and India managed. But there are still some business segments with small influence by Asian producers and distributors, e.g., segments of the European life science market are still not influenced much by Chinese products.

> *Prices for chemical goods are addicted to the demand of Asia.*

These markets are also important for sourcing. In Europe we cannot ignore Asian suppliers if we want to offer our customers a full product portfolio.

To better serve your customers it is necessary to expand into these emerging markets. What is your strategy for regional expansion?

B. Kuck: To reach our aim, to be an outstanding distributor and a leading expert for solutions for the chemistry industry, we have to grow regionally as well as globally. In Europe we offer a pan-European organization through our regional companies. Here it is important for us to have local contact to our customers and solve problems and find new solutions together with them. Through Biesterfeld International we are globally present, six presences in Asia and 10 in the Americas. We are coming from international trade and offering more and more service to our customers. Also, Biesterfeld International helps us to establish good contacts to our new suppliers in the emerging markets. Also, in 2011 and 2012 so far, we have established presences in North Africa, e.g., in Algeria, Tunisia and Morocco. Speaking of regional expansion, we want to expand further into the Middle East and Commonwealth of Independent States. This has to happen step by step to fulfill our requirements and quality standards. Belarus and Kazakhstan are on our agenda. Also we are still looking to get a presence in Scandinavia and to grow in the U.K. With this expansion strategy we are sure to be ready for the future.

▶ www.biesterfeld.com

chemanager-online.com/en/tags/distribution

Abbott Lifts 2012 Forecast

Abbott Laboratories reported better-than-expected quarterly sales and earnings, fueled by strong demand for its Humira arthritis drug and its wide array of prescription medicines, nutritional products and medical devices. The company earned $1.24 billion, or 78 cents per share, in the first quarter, up from $864 million, or 55 cents per share, in the year-earlier period. Excluding special items, Abbott earned $1.03 per share. Revenue rose 4.6% to $9.46 billion, topping Wall Street expectations of $9.36 billion. ■

PPG Industries Profits From Strong Coatings Sales

Chemical maker PPG Industries posted a better-than-expected first-quarter profit on strong sales of paints and coatings. The company posted net income of $13 million, or 8 cents per share, compared with $228 million, or $1.40 per share, in the year-earlier period.

Earlier this month PPG announced it would lay off 2,000 workers, mostly in Europe, due to weak demand. Excluding charges related to that restructuring, PPG earned $1.81 per share. Revenue rose 6% to $3.75 billion. Analysts had expected $3.74 billion. ■

Albemarle Profits Up

Albemarle's Q1 earnings rose, and beat Wall Street's expectations, on strong sales of catalysts used by petroleum refiners. For the quarter ended March 31, the company said net income rose to $108 million, or $1.20 per share, from $106.6 million, or $1.15 a share, in the year-ago period. Sales rose 2% to $711.7 million. Sales of its catalysts rose 13% to $293.5 million from the same period last year. Albemarle also said that sales in its fine chemistry unit, which supplies material for the pharmaceutical industry, increased 7% to $190 million. Sales of polymer solutions fell 12% to $228.1 million. ■

Celanese Q1 Profit up 29%

Celanese said that its quarterly profit rose 29% due to strong sales of chemicals used to make glues and fibers. For Q1, the company posted net income of $183 million, or $1.15 per share, compared with $142 million, or 91 cents per share, in the year-earlier period. Sales rose 2.8% to $1.63 billion. On Monday night Celanese raised its quarterly dividend 25% to 7.5 cents. The results are the first since Mark Rohr became chief executive of Celanese on April 1. Rohr said he intends to focus on new product areas. ■

Solid Sales Start for BASF in 2012

BASF had a solid start to 2012. Sales were higher than in the very good first quarter of the previous year and rose 6% to €20.6 billion. Income from operations (EBIT) before special items decreased as expected and, at €2.5 billion (down 7%), was slightly below the same quarter of the previous year.

Compared with Q1 2011, EBIT grew by 22% to €3.1 billion. Special items in EBIT resulted primarily from gains of €645 million on the disposal of the fertilizer business. EBITDA rose by €525 million to €3.9 billion. At minus €73 million, the financial result was €903 million lower than Q1 2011. In 2011, the financial result included special income of €887 million from the sale of shares in K+S.

Income before taxes and minority interests decreased by €333 million in Q1 of 2012 to €3.0 billion. At 39.6%, the tax rate was far higher than Q1 2011. This increase is the result of the largely tax-free gain on the sale of shares in K+S in 2011 as well as a higher earnings contribution from the Oil & Gas segment in 2012.

Net income decreased by €687 million to €1.7 billion. Earnings per share were €1.88 in Q1 2012, compared with €2.62 in Q1 2011. Adjusted for special items and amortization of intangible assets, earnings per share amounted to €1.57 (Q1 2011: €1.94).

With cash provided by operating activities at just under €1.6 billion, BASF has been able to further reduce its net debt by €1.5 billion to around €9.4 billion since the beginning of the year. ■

AkzoNobel Outlook Dimmer After Q1 Beats Forecasts

AkzoNobel warned that economic uncertainty as well as high raw materials prices posed challenges this year. The Dutch firm reported better-than-expected Q1 results but painted a cautious picture for the rest of 2012, citing the weak state of the mature U.S. and European economies, as well as slower growth in China and Southeast Asia. The company didn't give a full-year profit forecast as a result.

First-quarter earnings (EBITDA) were €423 million, down 3% from a year ago. Analysts had forecast EBITDA of €385 million, and have a full-year forecast of €1.894 billion. The company reiterated its medium-term target for annual revenue of €20 billion, as well as its ambition to increase EBITDA each year while maintaining a 13 to 15% margin.

It reported a first-quarter net profit of €70 million from continuing operations, and revenue of €3.97 billion compared to forecasts from a poll of €67.3 million net profit on revenue of €3.88 billion. ■

DuPont Delivers Record Q1 Earnings

Q1 2012 earnings, before significant items, were $1.61 per share versus $1.52 per share in 2011. Reported earnings per share were $1.57 versus $1.52 in 2011. Sales of $11.2 billion were up 12% versus the prior year. This reflects 8% higher local prices, 1% currency headwind, 2% lower volume and 7% net benefit from portfolio changes. Sales in developing markets grew 15%.

Segment pre-tax operating income, excluding significant items, increased $252 million, or 12% versus the prior year, principally due to Agriculture, Performance Chemicals and the benefit of prior-year acquisitions in Nutrition & Health and Industrial Biosciences. ■

Ashland Earnings Beat Estimates on Adhesive Demand

Ashland posted higher-than-expected quarterly profit as it sold more adhesives and coatings. For the Q2 ended March 31, Ashland posted net income of $88 million, or $1.10 per share, compared with $485 million, or $6.02 per share, a year earlier. The year-ago period included a $231 million gain from the sale of Ashland's distribution unit to private equity firm TPG Capital for $979 million cash. Excluding restructuring programs and other one-time items, Ashland earned $1.52 per share for the fiscal second quarter. Sales rose 34% to $2.08 billion. Analysts had expected $2.08 billion. Sales rose in three out of four of the company's main units. ■

Encouraging Start to the Year for Bayer

Bayer Group saw a successful start to 2012. All the subgroups contributed to the encouraging increase in sales. Earnings of the Group rose sharply. Sales of the Bayer Group advanced 6.8% in the first quarter, to a record €10,056 million (Q1 2011: € 9,415 million). Adjusted for currency and portfolio effects (Fx & portfolio adj.), business expanded by 5.2%. The operating result (EBIT) climbed by 42.6% to €1,637 million (Q1 2011: € 1,148 million). Special items totaled minus €169 million (Q1 2011: minus €442 million). EBIT before special items rose by 13.6% to €1,806 million (Q1 2011: €1,590 million). EBITDA improved by 9.4% to €2,442 million (Q1 2011: €2,232 million). This was partly due to positive currency effects of € 85 million, which occurred mainly at Health Care and CropScience. Net income increased by 53.5% to € 1,050 million (Q1 2011: € 684 million). Core earnings per share rose by 15.9% to € 1.68 (Q1 2011: EUR 1.45). ■

Setting Priorities

Fecc to Boost Efficiency and Added Value for its Members

One For All – An efficient chemical distribution sector plays a key role in enhancing the competitiveness of the chemicals industry. The European Association of Chemical Distributors (Fecc) and its members contribute to innovation in Europe and add value in the supply chain, by meeting the demands of over one million downstream users ranging from automotive, electronics, paint and lacquers, construction to pharmaceutical, food and cosmetics industries, each with their own specific needs.

Dr. Uta Jensen-Korte
director general, European Association of Chemical Distributors (Fecc)

Facing a still challenging world economy, Fecc has managed to sustain its membership while expanding its area of work to meet the challenges that today's chemical distribution industry faces. Fecc represents and supports the collective interests of its members through its various working committees. These working groups provide extensive information on trade related matters, current and proposed legislation such as REACh and CLP implementation and represent members in certain cases before the European institutions.

Business Volatility

Increasing volatility in the business environment is touching all players. Business has been affected by a wide range of issues, such as social and political unrest in the Middle East, and financial and economic instability in Europe and elsewhere. Fecc however, expects the positive trends in the chemical distribution industry to continue, as most of the members report encouraging results for 2011 and the first quarter of 2012.

Despite of some sensitive issues, that may still have a significant impact on the chemical distribution industry, like the effects of exchange rate, the impact of increased raw material prices and other ongoing challenges for the European economy, Fecc and its members remain fully committed to both regulatory and voluntary initiatives.

REACh and CLP Implementation

After successfully meeting the challenging deadlines of December 2010 and January 2011 for both REACh and CLP implementation, the industry has moved on to an implementation phase. Fecc 's work however does not stop here and it's now focused on the preparation for the 2013 REACh deadline. The association's advice to the industry is to continue to dedicate resources to comply with the challenges linked to these regulations, like the managing of information in the extended safety data sheets. In line with Fecc's commitment to assist members in the best way, a guidance document to raise awareness and provide suggestions to manage the next REACh deadline has been developed.

Fecc continues to play an important role in the REACh debate as its experts continue to monitor the REACh review process, for example by participating in the relevant studies launched by the European Commission. Considering the learning stage we are in, Fecc believes that it's very unlikely that the Commission launches a revision of the REACh regulation as such.

Nevertheless, these are not the only regulatory challenges our industry faces. To name a few, the Seveso Directive, the Explosive Precursors Regulation and the CBRN Action list, are some of the regulations currently under negotiations by the European institutions.

Partnerships and Strategic Alliances

Fecc strives to continuously increase the benefits for its members, since the implementation of the 2011 – 2014 strategy, a new set of partnerships and strategic alliances have strengthened the distributors' relationships with the other actors within in the supply chain. Working together has proved beneficial, as the recently launched EXCiPACT exemplifies. The voluntary international scheme aims to enhance patient safety, through supplier quality, while minimising the overall supply chain costs for excipient suppliers and their users by providing an independent third party certification of manufacturers, suppliers and distributors of pharmaceutical excipients worldwide.

The chemical distribution industry represented by Fecc is constantly involved in voluntary initiatives that lead to an improved sector. The dialogue between chemical manufacturers and distributors on the responsible handling and use of chemicals is essential to the industry. Responsible Care demonstrates the chemicals distributors' commitment to continuous improvement in HSE standards, and Fecc believes that an improved and more harmonized framework for Responsible Care will ultimately lead to a general increase in its adaptation throughout the sector.

Interaction within the industry and across the supply chain is of great importance, to help on this matter Fecc strives to offer their members networking opportunities with other industry leaders, key stakeholders and representatives from the European institutions. This is possible thanks to the annual congress and membership meeting, as well as other events like seminars and workshops.

Fecc Annual Congress

Over the years, the Fecc Annual Congress has become a recognized key event where the chemical distribution industry comes together to discuss the most current issues within the industry. It is clear that concepts like sustainability, environment, renewable energy, green procurement, have become an important part of daily business. Both public and private sector dedicate vast resources to the various aspects that these concepts cover, and the chemical industry is not different. Fecc believes that it is time to go further and turn targets into real change, which is why this year the theme of the congress is: "Sustainable and responsible distribution: the formula for success".

Most of today's market leaders are those who had the foresight to recognize the changing landscape in the business world. With the session "Why sustainability should be part of your business strategy", Fecc aims to emphasize the link between sustainability, high performance and opportunity. As chemical distributors have a privileged position in the supply chain, the close relationship with both manufacturers' and downstream users will be the focus of the session "Chemical Distribution Industry Landscape".

Each year outstanding speakers lead delegates to identify new business opportunities. The session "Doing Business with the Pharma Sector" will provide insight on what the sector expects from distributors. Knowing the customers' needs, is the first step to building a successful relationship, but being able to deliver on them demands a high level of commitment from the companies. The session "Human Resources" will advise how to use passion as a driver for excellence.

It is now clear that the industry has to face various regulatory challenges and it must never stop preparing. The session "Legislation and your Business" aims at helping companies prepare to comply with the variety of legislation and the effects these may entail.

As European chemical distributors increasingly operate on a global scale, trade policy issues move up in the agenda. Regulatory issues will remain a top priority for the chemical distribution industry, as well as the active promotion of Responsible Care.

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BASF Realigns Research

Future Topics, Global Markets and Customer Industries in Focus

R&D – German chemicals major BASF is realigning its research and is focusing even more strongly on the market and the global customer industries. Alongside the further development of the established business portfolio, the main research emphasis is being placed on growth and technology fields that address social challenges and offer BASF relevant business potential.

This new orientation is based on BASF's strategy to intensify its focus on sustainability and innovation as growth drivers. For 2012, the group is planning to increase its R&D spending to €1.7 billion (previous year 2011: €1.6 billion). "To seize growth opportunities we are systematically expanding our product and technology portfolio, establishing an even more global presence and increasing our efforts to develop solutions for a sustainable future," said Dr. Andreas Kreimeyer, member of the Board of Executive Directors of BASF and Research Executive Director.

In 2020, BASF wants to achieve sales of around €30 billion with products that have not been on the market for longer than ten years. To accomplish this, BASF is strengthening its collaboration with key industries and concentrating on growth fields relevant to society such as heat management, water treatment and organic electronics. These are new business areas for BASF with high growth potential. At the same time, enabling technologies have been defined – such as raw material change, material systems and nanotechnology as well as white biotechnology – which are needed to generate solutions for the growth fields.

In order to implement the new orientation most effectively, the research platforms have been tailored to the various business and technology areas and assigned specific topics. Thus, the activities of the platform "Process Research & Chemical Engineering" concentrate on new technologies, processes and catalysis. The topics crop protection, organic electronics and white biotechnology are being pursued in the research division Biological & Effect Systems Research. In the research platform Advanced Materials & Systems Research, activities are focused mainly on new polymeric materials and system solutions and the fourth platform Plant Science, is continuing its research into plant biotechnology.

BASF Future Business, which opens up new business areas for the company, is being expanded. It is responsible for developing and marketing business areas new for the company. At present, the focus is on the topics energy management, organic electronics and medical solutions. In addition, BASF Venture Capital, a subsidiary of BASF Future Business, is investing in start-up companies specializing in innovative chemistry and system solutions in BASF's growth and technology fields.

"The aim of the new structure is to significantly expand our portfolio of functionalized materials and system solutions and continue improving our position in the emerging markets," explained Kreimeyer. "We want to strengthen our technological and operational excellence, create value from interdisciplinary innovations and position our activities on a global scale to meet the needs of the markets."

By 2020, we want to conduct 50 % of our R&D outside Europe.

Dr. Andreas Kreimeyer, Research Executive Director of BASF

Solutions for Better Health

One of the customer industries BASF will be concentrating on further in future is Health and Nutrition. The group already supplies numerous products for this market. With the introduction of new photostable UV filters the company has established itself as a global technology and market leader.

BASF is also making a significant contribution in the health sector with its pharmaceutical excipients. The bioavailability of pharmaceutically active substances is of growing importance because active substances are becoming ever more complex, often with an associated loss of solubility. The body cannot absorb undissolved active substances. BASF has developed a polymeric solubilizer, which can also make high active substance concentrations available for the body. Another new polymer is a tablet coating system, the first polymer for this application which is marketed as an aqueous solution.

Water also plays a central and increasing important role in the health sector. BASF's products and solutions for water treatment include flocculating and coagulating agents for waste water treatment and also membranes for (ultra) filtration, for example of drinking water, an area of work that BASF also established with the acquisition of Inge Watertechnologies in 2011. The plastic membranes also contain pores that are only 20 nanometers in size, allowing germs, bacteria and even viruses to be filtered out of the water. BASF estimates the market in the growth field water of €20 billion, representing a growth potential of more than €800 million.

Global Research

"Effective and efficient research is an important success factor for achieving our growth targets and is simultaneously a factor distinguishing us from our competitors. Research and development will therefore have even greater priority in future than before," BASF's Research Executive Director emphasized. In 2011, the number of employees working in research and development increased to around 10,100 (from 9,600 in 2010). In North and South America as well as Asia however, BASF research is still underrepresented. "We will have to expand our presence and speed up our activities in these regions." A first step in this direction is the new Innovation Campus in Shanghai scheduled to open at the end of this year. "By creating innovations in Asia for Asia, we want to grow with our customers. By 2020, we want to double our research activities in Asia and the Americas and conduct 50 % of our research and development outside Europe," Kreimeyer explained.

An important asset for globalized research is an international network of external researchers. BASF is already working in around 1,950 collaborations worldwide with universities, research institutes, start-ups and partners from industry. One example is the "Joint Research Network in Advanced Materials and Systems" (JONAS), a new initiative for researching functional materials in partnership with the universities of Strasbourg and Freiburg as well as ETH Zurich.

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Fecc Member Companies

In Chemical Distribution, Sustainability and

Formula for the Future – The annual congress of the European Association of Chemical Distributors (Fecc) is one of the most important dates in the European chemical industry's calendar. Hundreds of delegates, from business leaders in the chemical distribution industry to stakeholders, will gather in Lisbon, Portugal, May 21 to 23 for this 48th edition of the Fecc Annual Congress. The congress' theme "Sustainable and Responsible Distribution: The Formula for Success" serves as an umbrella for a variety of sessions. CHEManager Europe asked the leaders of several Fecc member companies about their understanding of this formula.

"The aim of sustainability led us to expand our geography coverage from Portugal to Iberia and to Africa."

José António Magalhães, Director, Quimitecnica

"We continuously have to improve on sustainability and responsible care."

Peter Skou, Part Owner, R2 Group

"We engage in a variety of initiatives that underline our mission to be a responsible employer and market player."

Francois Minec, General Manager, Velox

"We are not in politics; we are in the hard and very competitive business environment."

Pavel Kratochvil, Executive Vice Presdient & Board Member, Barentz

CHEManager Europe: This year's Fecc Congress motto is "Sustainable and Responsible Distribution: The Formula for Success." How does your company turn this vague statement into concrete solutions?

Francois Minec (Velox): At Velox, we engage in a variety of initiatives that underline our mission to be a responsible employer and market player.

First, we have implemented a range of social benefits for our employees to protect their health and social well-being. Second, as a member of the Fecc, we are committed to the Responsible Care agenda and have received the certificate. Third, we have also implemented a code of conduct, which binds our management and employees to respect the principles of corporate responsibility, fair employment, fair competition and environmental responsibility within the daily business. Fourth, we included bio-based products (Ecozene, Cabopol, etc.) in our distribution portfolio to promote the market access and development of these ecofriendly products. Fifth, we thoroughly optimize our logistics to save energy and transportation costs as much as possible.

John Zillmer (Univar): Maintaining a sustainable business is not a luxury; it is a necessity, both ethically and operationally. Univar has long recognized the importance of integrating sustainability into the very core of our business strategy, ensuring that it forms part of our DNA.

Reduction of carbon emissions was made one of our top priorities almost a decade ago. The introduction of route planning softwae has increased our transport efficiencies and led to a reduction in fuel use. In the U.K. alone, the introduction of this software has helped reduce the carbon footprint of the business by more than 20%. Coupled with this, the new generation of delivery vehicles we are bringing into service is custom-designed to minimize environmental effect and maximize the safe transportation of chemicals.

We are designing sustainability in to our sites, implementing simple initiatives that, together, have a significant influence on our environmental footprint. For example, advanced wastewater treatment systems and smart lighting are being introduced to reduce water and electricity consumption. We have initiated a Sustainability Challenge for our staff in Europe to raise awareness of environmental issues and to harness ideas that can be shared throughout the business and beyond.

We are also proud of the work we have done to increase the use of returnable containers at Univar, which has made a big difference since one of our key activities is repackaging bulk liquids and powders into smaller containers. Univar was one of the earliest adopters of the use of returnable containers, and many of the containers we use are of a bespoke design that was developed using our practical expertise to ensure the integrity of the containers for safe transportation and storage of chemicals. We were also able to advise on incorporating design elements that have increased the working life of the containers, which can be in excess of 10 years.

Our suppliers and our customers invest significant resources in developing sustainability strategies. The ability of a distributor to form a meaningful and constructive link in this chain through serious commitment to product stewardship is becoming one of the most important differentiators in our industry.

To ensure product stewardship is embedded in our company, we have strengthened our supplier approval process. We want to foster relationships with partners that recognize the value of responsible and sustainable business and, like Univar, act with integrity. This approval process includes assessment of prospective service partners as well as product suppliers. The assessment addresses critical issues such as environmental and safety compliance, commitments to the International Labor Organization labor standards, and quality of product or service.

We want Univar to be a safe and efficient place to work. This was one of the main motivations behind U+, our site certification program introduced in 2006. U+ is an aspirational target-based internal certification applied to each Univar site to help continually improve environmental, health, safety and quality standards. By aiming to ensure our sites exceed the industry sector requirements, the program has helped cut overall Lost Time Incidence Rate by 60% over four years, as well as increase the number of ISO certifications awarded. These achievements ensure our business runs more efficiently and make us a trusted partner for our customers and suppliers and a respected member of the communities in which we operate.

José A. Magalhães (Quimitecnica): The aim of sustainability led us to expand our geography coverage from Portugal to Iberia and to Africa, and to focus on the development of activities with higher content of service.

Sustainability also led us to design our installations and operational procedures in order to avoid accidents, to limit environmental and health effects and to use external verification such as ESAD II and ISO 9001 to get unbiased evaluations.

Pavel Kratochvil (Barentz): I agree; the formula is vague. Luckily in daily operations and daily activities, you can be vague. Life proves and clearly shows that those who use only empty proclamations and vague statements, in business or in private life, must be sooner or later lost. It is simple as such. Barentz has prepared midterm and long-term plans, vision and mission, which have been presented to our employees and to our business partners. These clearly show how we want to develop our company within the next couple of years. Very soon Barentz will celebrate its 60th anniversary, and we would hardly survive if our plans, activities and development were not sustainable. We are not in politics; we are in the hard and very competitive business environment, where you simply must be concrete, sustainable and very transparent for your business partners.

Peter Skou (R2 Group): It is clear that corporate social responsibility (CSR) is becoming a more and more important factor. Concrete actions that are taken in our business are, among other things, verification of our partners in showing that everything is done properly.

Distribution is also an advantage when we combine truckloads with different products for dispatch to single customers instead of sending different trucks with different products. That is, of course, also a key element for the distributor, and we continuously have to improve on sustainability and responsible care.

Alexander Ivlev (Ruskhimset): Since the very beginning, one of the core competitive advantages of our company was guarantee of availability of the whole range of chemical raw materials at our regional warehouses. Our customers are small and medium-size enterprises. They are interested in minimizing stock of raw materials at their own warehouses, and we provide them with the possibility to deliver the raw materials as often as they want from the local warehouses of our company, which are close to the customers' facilities.

How has the role of chemical distributor evolved over the past few years?

Peter Skou (R2 Group): Over the past three to four years — and especially in 2009 — the industry was hit by the financial crisis. However, the financial crisis and cash shortage in the market have in reality meant that the distributor's role has become even more important. We have clearly seen that downstream is keen on shipping as much as possible in one go, and upstream wants just-in-time delivery and in small volumes. This is where the distributor is a perfect match, and therefore the industry as such had a good run.

Francois Minec (Velox): The notion of "partnership" between the principals and the distributor has become increasingly important over the last years. Today, our providers not only expect us to sell their products to small accounts, but they also appreciate our effort in terms of market development, developing new application fields as well as providing the manufacturer with feedback from the market and upcoming market trends.

John Zillmer (Univar): As a distributor, it is no longer enough to simply wait for orders to come in and then ship the required products. Instead, we have to be proactive. We have to truly understand our partners' business so that we can work collaboratively to provide them with unique solutions. At Univar, we have always put significant effort into developing world class, cross-border technical expertise. This has been a real asset when it comes to operating as a trusted business partner.

Increasingly, customers and suppliers are expecting distributors to provide market intelligence on our products and the industries and territories where we sell them. As a leading global organization supply-

Building the New Solvay on Growth Engines and Operational Excellence

Seven months after the acquisition of Rhodia in September 2011, Solvay presented the group's strategic vision focused on value creation and its profitability ambition for 2016. According to Jean-Pierre Clamadieu, CEO of Solvay as from May 11, 2012, the major transformation underway based on operational excellence and the successful progress of the ongoing integration will allow the enlarged company to reinforce its leadership positions and execute its profitable growth strategy. "After an in-depth analysis of our portfolio, we have developed a clear strategic intent for our different businesses in the light of their intrinsic strengths, their positioning and market dynamics," explained Clamadieu, who will succeed Christian Jourquin as Chairman of the Executive Committee of the Brussels-based chemicals and plastics company.

In December 2011, Jourquin had marked out what his designated successor now explained in detail: "What we are now building is a new organization, an organization which will enable us to be faster, more agile and closer to our markets", he said. "With the integration of Rhodia, we have opened up additional new avenues, which will also play a key role in our future", Jourquin added.

Clamadieu elucidated that businesses such as Specialty Polymers, Consumer Chemicals and Advanced Materials, which represented nearly half of Solvay's 2011 recurring EBITDA, will be the new group's growth engines. Their strategic objective is to seize expansion opportunities and deliver double-digit growth. For resilient businesses such as Essential Chemicals and Acetow & Eco Services, and for activities more exposed to business cycles such as Vinyls, Polyamide and Special Chemicals, the focus will be sustainable cash generation and improvement in strategic positioning

Jean-Pierre Clamadieu
designated CEO, Solvay

allowing Solvay to regain full strategic flexibility.

"Our ambition is to build a strong leader participating in the reshaping of the global chemical industry. We want to be a model in sustainable chemistry, creating value for all our stakeholders", added Jean-Pierre Clamadieu. "The execution of our strategy will be mainly driven by operational excellence and growth based on innovation, capacity expansion in fast-growing regions and value adding bolt-on acquisitions. The group's strong fundamentals combined with its ongoing major transformation should allow us to generate – at constant scope – a recurring EBITDA of € 3 billion in 2016."

Operational excellence in all areas – purchasing, administration, manufacturing, marketing, sales – will be a key contributor to the Group's ambition. This should generate total cost-efficiencies of € 400 million by 2014 compared to the group's 2010 cost base (including the Horizon program savings amounting to € 120 million). These will comprise global purchasing and logistics savings of € 250 million and internal efficiencies arising from a streamlined organization accounting for € 150 million. In addition, Solvay's industrial and supply chain teams are currently developing action plans to improve the competitiveness of our sites and reduce capital intensity of our businesses. Marketing and sales excellence will mainly stem from pricing power and cross-selling opportunities across markets and geographies.

With 12 major R&D centers around the world, 1,700 researchers and a net investment of € 218 million in 2011, Solvay's innovation capabilities are fully aligned with the megatrends that are driving growth in the chemical industry, such as the fight against climate change, scarcity of resources, increasing consumption in fast-growing regions and growing expectations regarding health and well-being.

The group's sound financial structure provides the flexibility to seize value-creating bolt-on acquisition opportunities. They will aim at strengthening Solvay's leadership positions in attractive business segments and regions.

"All our teams throughout the world are strongly committed to the group's transformation. Their skills and enthusiasm give me complete confidence in our ability to generate profitable and sustainable growth and achieve our ambition", concluded Jean-Pierre Clamadieu. Asked by CHEManager Europe about the process of integration of two apparently different company cultures, Clamadieu said: "There are obviously differences but I tend to think that based on these differences we can build a very strong culture for the new Solvay. If I add up the long-term vision of what I would call the legacy Solvay organization and the short-term activity that Rhodia had developed over the years, I think these two ingredients combine pretty well in the new organization."

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Poised for Success

Responsibility Can Serve as Catalysts

"One of the core competitive advantages of our company was guarantee of availability."

Alexander Ivlev, General Manager, Ruskhimset

"Maintaining a sustainable business is not a luxury; it is a necessity, both ethically and operationally."

John Zillmer, Executive Chairman, Univar

"Our focus is on high-growth markets, with no better example than China."

Chris Stockwell, Chief Supply Chain Officer, Univar

ing products into a wide variety of industries, we are able to compile a more comprehensive view of our products and industries than many of our partners. Access to this intelligence allows Univar to operate in the best advantage of our customers and supplier partners, allowing those partners to make better decisions when considering new markets and product lines. This process of providing information strengthens our relationship with them and creates unparalleled connectivity across the value chain.

José A. Magalhães (Quimitecnica): We didn't see a big change in the chemical distributor's role. We are channel partners, and this is our mission.

Pavel Kratochvil (Barentz): In short, I believe that the role is always the same. It is to be an added-value and complex service provider between the producer and customer. But the business environment has changed during the last couple of years. Good and sustainable distributors have to prove their non-replaceable position all the time. However, I have a feeling that still today, even good — or perhaps just good and reliable — distributors have to prove and protect their roles and position in the market. Why "just good and reliable ones"? Simply because the wrong ones are just buying and selling — regardless of what and to whom and what kind of service and added value they bring. These distributors do not care how they are perceived; they have very short-term objectives, if any. And also because of them some third parties on the market still think that a distributor is just a needless element in the whole chain. That's why good, reliable and sustainable distributors with long-term visions and missions must permanently protect their positions toward suppliers and even toward their customers. Although there have been some improvements, even on the legislative level, during the last couple of years, a lot remains to be done in order to bring distributors on the same level with their partners.

Alexander Ivlev (Ruskhimset): Even five years ago the main function of distributing companies in Russia was informational intermediation. Distributors researched the market and contacted the suppliers, while the final customers were not able to arrange direct relationships with the producers. That's why distributors operated mostly as traders and sold big volumes to one customer.

Nowadays Russian enterprises are much more involved in international relationships and are able to arrange import deliveries of transit volumes themselves. That's why distributors should concentrate on their classical functions: offer a wide range of raw materials, maintain the products in-stock and deliver in less-than-truck quantities.

According to a recent study, China and India are taking over important roles in both the import and export of chemicals. What does this mean for the European chemical distributors?

Peter Skou (R2 Group): The behavior and market developments in countries such as China and India are of course a very hot topic for European distributors. Yes, China and India are extremely important markets, but we have to look at it as an opportunity instead of a risk.

China is the second biggest economy in the world, but on the list of income per capita in relation to gross domestic product it is only No. 93, which means the scope for commercial activities with China is enormous. Europe has to — as it has always done — adapt to a "new world" and develop highly technical products and solutions, meaning innovation for Europe is the future.

Francois Minec (Velox): This means significant risks and opportunities for us. On the one hand, we face the challenges related to market relocations from Europe to China. Some customer applications are now almost entirely produced on the Asian continent where a European distributor usually has limited market access. On the other hand, we have the opportunity to develop new distribution partnerships with Chinese manufacturers and to import more from Asian countries.

Chris Stockwell (Univar): Like other companies in our industry, our focus is on high-growth markets, with no better example than China. The rise of China as a producer and consumer of chemicals has been dramatic, and the opportunity for chemical distribution is significant. The Chinese chemical distribution industry is large, highly fragmented and in an early life cycle. The same is true, to differing degrees, in Latin America and Eastern Europe, creating a significant opportunity for us as we expand our footprint in these regions.

In addition to expanding our distribution footprint, we leverage our global sourcing and exports organization to connect the many networks enabling us to provide unique business solutions globally. These solutions simplify logistics and supply chain for our global producers and customers and allow us to provide global distribution for local and regional producers.

José A. Magalhães (Quimitecnica): From the perspective of a small chemical distributor, without any active selling activities in those regions, China and India are used only as sourcing alternatives. In this respect our experience is that the fraud and active cheating situations are increasing, especially with China. We have several cases of cheating and fraud behaviors of Chinese companies, from fraudulent Reach information to the delivery of fake products. This, associated with the higher capital commitment, makes the Chinese sourcing alternative less attractive to us.

Pavel Kratochvil (Barentz): There are still a lot of opinions on the market that these large economies are a kind of threat for Europe. I do not think so. I strongly believe that it is a great opportunity for us. However, it is an opportunity only for good and well organized distributors who see the opportunity on both sides — their own sales and distribution over there, as well as sourcing possibilities at the same time. But you have to invest in that. You must be present there, have a lot of good and sustainable connections, reliable sources, etc. In our company we do both — we have our own responsible sourcing activities in Asia, and we are following our development plans for our own distribution business there. It has become an important part of our long-term strategy.

Alexander Ivlev (Ruskhimset): The markets of many chemical products have oligopolistic structures. Few suppliers of raw materials have appointed few companies for distribution of the goods, and new distributors had no access to the products demanded by the markets. In this situation Chinese and Indian producers of the same products became a good alternative source for the necessary products. In an environment of multiple M&A deals when big companies acquire small ones, and the market becomes even more oligopolistic than it was before, distributors of the small companies lose their contracts with the producers. As far as there is no competitive offer from European suppliers, distributors are forced to go to China and India to search for the necessary products.

But along with the positive aspects of collaboration with Chinese and Indian producers, there is the negative part as well. Manufacturers from China and India are ready to sell their products to any company that applies to them.

Such a marketing strategy can affect the distributors and the whole market negatively, because the first buyer could already have invested considerable time and money into the promotion of the products, and the second one can enter the market with the dumping price and ruin the goodwill of the producer and the products established previously and make their market position worse.

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Chemical Distribution in China

Continued Page 1

Chinese suppliers of chemicals prefer not to involve distributors at all, which for them is easier to do than for Western chemical companies as they have existing networks and customer knowledge in China and their cost structure is not too different from that of Chinese distributors. Finally, many Chinese customers — even small ones with very limited technical knowledge — are extremely price-driven and reluctant to pay for any services. However, in the long run, rising quality standards and the need of chemical companies to focus on their core customers will drive chemical distribution in the country toward Western standards.

Contradictions

Finally, some words on the size of the chemical distribution market relative to the total chemical sales

Dr. Bernhard Hartmann
Managing Director,
A.T. Kearney China

Dr. Kai Pflug
CEO, Management Consulting – Chemicals

in China. Will chemical distribution grow at the same speed as overall chemical sales? There are a number of contradictory factors at work here:

The share of third-party distributors as part of total chemical distribution is low compared with other countries (6% in China compared with 13% in the U.S.), indicating substantial growth potential.

However, China has many more small chemical customers than developed countries (according to some estimates, 75% of customers are small compared with 20% in Germany). For chemical producers, the situation is similar. As the industry consolidates and thus both producers and customers get bigger, the share of direct sales is expected to increase at the expense of distributors.

As multinational companies increase their sales in China in line with overall market growth and get more familiar with local market conditions, they will aim to sell a larger share of their products directly, bypassing distributors. On the other hand, multinational companies will increase their standards for their local distributors and will try to reduce their numbers. Bigger distributors may profit from the resulting consolidation.

For larger domestic chemical producers, their willingness to involve third-party distributors may increase as they rationalize and increasingly focus on their core competencies. Similarly, customers will aim to reduce internal complexity, increasing the demand for distribution services such as one-stop shopping and customer-specific offerings (packaging, labeling, mixing, recycling, etc.).

The further regional expansion of China's chemical industry toward Central and Western China should at least initially boost distributors in these regions.

Finally, when more and larger chemical distributors get established in China, they will become more attractive to principals as their capability to offer countrywide distribution and value-added services will increase.

Investing In Distribution

Overall, chemical distribution likely will grow faster than the overall chemical market. This aspect and the growing maturity of chemical distribution (with the corresponding higher value creation), make chemical distribution an attractive long-term business proposition in China. As a consequence, Brenntag in 2011 acquired a 51% stake in Chinese distributor Zhong Yung Chemical, with the remaining 49% share to be taken up in 2016. As Zhong Yung is a distributor focusing less on volume and rather on value added, Brenntag's investment also shows the belief in a gradual evolution of the Chinese chemical distribution market along Western standards. We expect both further China acquisitions by Brenntag and similar moves by the main global competitors in the next few years.

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Rhodia, Sibur in Strategic Partnership for CIS Market

Rhodia and Sibur have taken significant further steps in their project to create a joint venture in specialty surfactants. The aim of this strategic partnership is to create a surfactant specialty leader in the CIS market focused on the home & personal care and oil & gas markets, two sectors growing at more than 6% per year.

The two partners have completed studies to set up local production of surfactants in Russia at Dzerzhinsk, at Sibur's petrochemicals site (400km east of Moscow), expected to be operational in 2014. In the home & personal care market, Rhodia and Sibur are working together with customers to build business opportunities to support their growth strategy in this region, where the consumer demand is growing rapidly (CAGR 8%) and moving towards more sophisticated products in categories such as shampoos, conditioners, shower gels, laundry and household detergents.

In the oil & gas market, a series of successful trials of Rhodia's high performance solutions have been carried out with several companies to adapt formulations to the specific conditions required for the local market.

"We are pleased to see that with our partner Sibur, we have made a major step towards setting up this joint venture which will generate new value for our customers in the CIS region." Christophe Clémente, vice president in charge of this project for Rhodian Novecare explained. "This alliance will reinforce our leading position worldwide in specialty surfactants. Aligned with our growth strategy, it demonstrates our commitment to become the preferred partner of our customers as they expand in fast growing countries," Emmanuel Butstraen, President of Rhodia Novecare added. ■

EOR Alliance to Team with Champion Technologies

The Chemical EOR Alliance (an alliance between Rhodia, Beicip-Franlab and IFPEN) has announced a strategic collaboration with Champion Technologies, one of the world's largest oil and gas specialty chemical companies.

The companies will work together to promote and deliver integrated solutions to the oil industry for chemical enhanced oil recovery (reservoir engineering, chemical formulation, laboratory experiments, pilot design, and implementation) in the USA and Canada.

Through this collaboration, the Chemical EOR Alliance, which offers integrated EOR solutions in most parts of the world, will benefit from Champion Technologies' vast North-American footprint and field presence, and will strengthen its water and produced fluids treatment capabilities. Champion Technologies' customers in the fast-growing North American EOR market will immediately gain access to the full suite of services provided by the Alliance.

"We are delighted to be involved with Champion Technologies in the development of integrated chemical EOR solutions", Jean Burrus, CEO of Beicip Franlab, Pascal Barthelemy, Executive Vice-President of IFPEN and Emmanuel Butstraen, President of Rhodia Novecare said in a common statement. "Joining forces with Champion Technologies will immediately offer new opportunities to respond to the demand of North American oil operators, who are constantly seeking advanced solutions for improving reserves and production in oil fields under development."

"This strategic collaboration is a key step in the development of needed, integrated chemical solutions for enhanced oil recovery," said Tom Amonett, President and CEO of Champion Technologies. "This move demonstrates Champion Technologies is committed to finding better solutions for our oil and gas customers by working with complementary product and service providers to provide unique value. We look forward to the development of the relationship with such renowned international organizations." ■

Huntsman Strengthens Polyurethanes Business in Eastern Europe

The Polyurethanes division of Huntsman has signed a cooperation agreement with Budapest-based Polinvent, a research-intensive enterprise that has recently developed and patented a range of novel amine-epoxy adducts.

The two companies will explore the benefits that can be derived from incorporating Polinvent adducts into polyurethane and polyurea coatings as well as other adhesive and elastomer products.

Under the terms of the cooperation, which covers research, development, manufacture, trade and intellectual property rights, Huntsman will have exclusive access to Polinvent adducts for an initial three year period. During this time, the two companies will seek out new application opportunities and create new adducts for industrialization.

Huntsman is also opening a new service center in Warsaw, Poland, strengthening the capabilities of its Polyurethanes and Performance Products businesses across Central and Eastern Europe, and the Baltics' territories where MDI demand is growing steadily. ■

Biosimilar Remicade Accepted for EU Drug Review

Europe's drugs watchdog is to evaluate a copycat version of the best-selling biotech drug Remicade, used to treat arthritis, in a move that underscores how the market for so-called biosimilars is opening up.

The European Medicines Agency's latest list of validated new drug applications includes one for a biosimilar version of infliximab, the generic name for Johnson & Johnson and Merck & Co's Remicade.

The London-based agency did not identify the company behind the application but analysts at Bernstein said they believed it was Celltrion, which has a European marketing deal with Hospira.

Up to now, complex biotechnology medicines, which are given by injection or infusion, have been largely immune from generic competition, unlike conventional pills. But the regulatory landscape is starting to change, posing a threat to makers of multibillion-dollar drugs for diseases like cancer and rheumatoid arthritis.

Europe has already approved some biosimilars, including copycat versions of human growth hormone and the anaemia treatment EPO, but it has yet to approve an antibody drug like infliximab. ■

Heraeus and Yingli Green Energy Sign $70 Million Deal

Yingli Green Energy Holding, a global vertically integrated photovoltaic manufacturer, and the precious metals and technology group Heraeus, signed a $70 million cooperation and supply agreement. The Heraeus Photovoltaic BU, a world leader in developing front and back-side silver paste for crystalline solar cells will work together with Yingli Green Energy to achieve significant photovoltaic technology advancements, specifically to reduce the cost-per-watt of solar cells to a new industry benchmark.

"As an industry leader, we are overjoyed about our agreement with Yingli Green Energy since our primary focus is the commitment to innovation of highly-efficient, yet cost-effective products for our customers," Andy London, PV Global Manager and Vice President of Heraeus Precious Metals North America Conshohocken LLC in West Conshohocken, Pa. (USA) said.

Under this new one-year agreement, Heraeus will dedicate R&D resources in its 3 technology centers located in West Conshohocken (USA), Hanau (Germany) and Singapore to develop state-of-the-art silver metallization pastes for Yingli Green Energy's high efficiency N-type silicon solar cells, named PANDA.

According to Jingfeng Xiong, Vice President of Yingli Green Energy, "Our mission is to provide affordable green energy for all, therefore, we constantly innovate to enhance the quality and cost structure of our products. The ability to work closely with Heraeus will help us remain an industry frontrunner." ■

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The Asian Century

German contractors face up to competition challenges as markets for large plant construction move eastward

Oxo/syngas complex at the BASF Verbund site Kuantan, Malaysia.

Plant Construction – Germany's large plant contractors took in new orders worth nearly €25 billion in 2011, lifting business nearly back to the level of pre-economic crisis year 2008, reports the large plant contractors committee (AGAB) in the German Engineering Federation VDMA. The 11 % year-on-year average order increase against the 2010 figure of €22.4 billion was driven by energy applications, which soared by 42 %. By contrast, the value of new chemical process projects sank by 8 %, from €2.5 billion in 2010 to €2.3 billion.

At €18.3 billion, around 73 % of the Germans' project intake across all applications came from projects outside the country, with 60 % of new orders originating in Asian countries. In nearly every individual engineering field, foreign business exceeded business with German customers; however, thanks to a national scheme to promote the utilization of renewable resources, AGAB members enjoyed a 38 % upturn in orders for wind energy plants in their home market. The total sales revenue of €22.4 billion booked in 2011 from existing and new projects was slightly ahead of the 2010 figure of €22.1 billion.

The market for large plant construction is clearly moving eastward – to Southeast Asia as well as India and the Middle East – says Helmut Knauthe, current chairman of the contractors' committee and member of the executive board at ThyssenKrupp-Uhde. Projects in Asia-Pacific accounted for nearly 28 % of their AGAB members' business in 2011, Middle East projects for 22 %. In large plant construction, Chinese projects led the list with 13 %, followed by Saudi Arabia with 11 % and India with 7 %.

In these markets, German contractors are facing ever stiffer competition from Asian engineering firms based in countries such as China and South Korea. To deal with the challenges of what is being called "the new Asian century," companies are establishing their own engineering, equipment manufacturing and services in the region. When cooperating with Chinese partners in particular – they are paying careful attention to protecting intellectual property, however.

For 2012, Knauthe predicts that German contractors' growth in order intake could slightly surpass the 2011 figures. At the same time, he suggests, it is equally possible that growth could taper off moderately. In any case, none of the companies belonging to the VDMA committee expects that business will return to the levels of 2007 or 2008 in the foreseeable future.

Contractors for chemical process plants, based in Germany and elsewhere, are facing challenges similar to that of the engineering sector as a whole. The number of large projects worth more than €500 million is declining worldwide, and political and economic instability often delaying projects until far into the future. Contributing to the economic constraints faced by independent contractors, large chemical producers based in developed countries often revamp and upgrade existing plants rather than building new greenfield facilities, as Knauthe points out.

AGAB sees favorable chances for German contractors to make the cut in new petrochemical projects pursued in countries that are rich in oil and gas. In Russia, where in particular demand for plastics is rising, national authorities are moving to exploit these valuable resources. While Russian contractors are world leaders in some engineering segments, the German grouping believes that the strong demand for technologies needed to modernize existing plants offers promising opportunities.

North America's rush to utilize its newly tapped shale gas resources will result in a wealth of new projects, but home-grown contractors are most likely to benefit from this bonanza. By contrast, the need to build industrial gases units for chemical as well as steel plants, for example, will continue to work to the advantage of specialized German engineering firms such as Linde.

With demand for polyurethanes growing in a number of sectors such as footwear and insulation, an at least temporary revival is under way for large-scale projects in the Germans' backyard. Two chemical giants have recently announced capacity build-ups. Bayer MaterialScience, for example, is currently constructing a new production facility for 300,000 metric tons per year of the precursor TDI at Dormagen, Germany. Start-up is scheduled for 2014, the same year in which BASF will commission a new 300,000 metric tons per year TDI plant at its Ludwigshafen headquarters.

Whether German contractors stand to profit from such projects will depend on a number of factors. In recent years, the engineering departments of the large chemical producers have taken over a considerable share of the duties in-house, while dividing the "heavy lifting" among several outside companies. Here, as elsewhere, competition from cheaper foreign – especially Asian – contractors is intensive. South Korean companies are increasingly winning bids for turnkey plants worldwide.

German engineering firms traditionally have been at the forefront of technology developments in chemistry and other fields. At the same time, the companies realize that the days in which reputation alone determined who would win the prized contract are over. In order to stay on top of worldwide competition in future, they will need to make "massive investments" in expanding this leadership, Knauthe stresses. AGAB members are already addressing this issue, he says, "working on the standard project parameters such as price, quality and processing time."

Taking aim at the Asian competition, companies under the VDMA umbrella have launched a campaign to spotlight their innovative strengths in all engineering disciplines. In the past, German firms were often said to be so proud of their technological skills that they forgot to actually sell anything. With the competitive challenges intensifying, they are now collectively making a concerted effort to improve their marketing as well as risk and project management skills.

As part of the forward thrust, the contractors also will more intensively tout their own innovative competence. This, AGAB acknowledges, is all the more important where German-based companies are at a disadvantage in competition with contractors in lower-priced environments. Alongside energy and resource efficiency, trump cards they intend to play include expertise in developing holistic concepts for process plants, from start-up to shutdown. In the medium-term, the target is to further increase the service component of their business beyond the current 30 %. No ballpark figure has been named, as yet.

Author: Dede Williams, freelance journalist, Frankfurt, Germany

chemanager-online.com/en/tags/plant-construction

Building Activity Starts on CNPC, PDVSA Joint Refinery

State-run China National Petroleum Corp (CNPC) and Petroleos de Venezuela (PDVSA) have started building their $9 billion mega joint refinery on China's southern coast, a move that would pave the way for more Venezuelan oil to flow to the world's second-largest oil user. Construction of the plant in the eastern part of Guangdong province could take three to four years. Caracas' oil sales to China could almost triple upon completion of the refinery, which is designed to process Venezuelan heavy oil. CNPC owns 60 % of the refinery and PDVSA 40 %.

It would be the second major stronghold for CNPC in the south China market after it started up its 200,000 barrel-per-day Qinzhou refinery in Guangxi in late 2010. CNPC is also considering a 400,000 barrel-per-day refinery and a 1.2 million ton-per-year ethylene complex in Taizhou in Zhejiang province with partners Qatar Petroleum and Royal Dutch Shell. ■

Evonik Starts Construction of New H_2O_2 Plant in Jilin, China

An official ceremony was held on April 21, 2012 to mark the groundbreaking for Evonik's new hydrogen peroxide plant in China. The plant is scheduled to go online, with a planned annual production capacity of 230,000 metric tons, at the end of 2013, thus increasing Evonik's current overall annual capacity for around 600,000 metric tons of H_2O_2 production by nearly 40 %.

Evonik recently founded Evonik Specialty Chemicals (Jilin) to run the new production facility. Evonik will supply its H_2O_2 from Jilin directly to the adjacent propylene oxide plant run by Jishen Chemical Industry via a pipeline that will link the two facilities. A long-term supply agreement is in place between these companies. Jishen will use the so-called HPPO process to make propylene oxide from the hydrogen peroxide. ■

BASF Increases Ammonium Carbonate Capacity

BASF is increasing the production capacity of its ammonium bicarbonate and ammonium carbonate plant at Ludwigshafen by 30 % in a move designed to cope with rising demand for high-purity food additives on the world market. The upgrade is scheduled to be complete by early 2013. Karl Chang, Regional Head of Business Management Inorganic Chemicals Asia Pacific, said, "The extra capacity at Ludwigshafen will enable us to meet growing demand for high-purity food additives in the Asia Pacific region too." Ammonium bicarbonate is an important synthetic leavening agent for bakery products. The Ludwigshafen plant is not only GMP-certified (Good Manufacturing Practice) but also satisfies the high certification standards of the British Retail Consortium (BRC). The plant also manufactures certified kosher and halal products. Certifications like these give customers the assurance of the highest standard of product safety so essential in the food industry. ■

SABIC Plans $100 Million China R&D Center

Saudi Basic Industries Corp said it is planning to invest $100 million to build a technology research and development center in China. The facility in the Shanghai region will house a total of about 400 employees when completed in 2013, the company said.

"In addition to commercial and corporate function staff, there is a research and development team of over 200 scientists and engineers, who will focus on advanced engineering plastics materials that can be used in a broad array of industries from automotive, personal electronics, IT, alternative energy, building and construction to infrastructure," SABIC said.

SABIC, 70 % owned by the government of Saudi Arabia, makes chemicals, fertilisers, plastics and metals used in paint, rubber, textiles, leather, cleaning products, glass, food and other consumer industries. In May, SABIC said it was strengthening its presence in the Asia by investing in two technology and innovation centers in China and India, both expected to be operational by 2013. ■

Dow to Invest in New Facility in Jubail, Saudi Arabia

Dow plans to invest in a new manufacturing facility for its Dow Coating Materials (DCM) business unit in Saudi Arabia. The planned facility, which will be located in Jubail Industrial City, will manufacture a wide range of coating materials for both the Kingdom and export markets worldwide.

The new facility is the latest in a series of investments to be announced by Dow in Saudi Arabia. In July 2011, Dow and Saudi Aramco announced an agreement to form Sadara Chemical Company, a joint venture to build and operate a world-scale, fully integrated chemicals complex in Jubail.

Upon completion, the joint venture is projected to be among the world's largest petrochemical facilities and would represent the largest foreign direct investment into Saudi Arabia's petrochemical sector.

Dow also recently announced plans to invest in a manufacturing facility for Dow filmtec Reverse Osmosis (RO) elements in the Kingdom. ■

Socar to Build Refinery, LNG, Chemical Plants

Azeri state energy company Socar (State Oil Company of Azerbaijan Republic) said it planned to start construction of a new oil refinery, gas liquefaction plant and a chemical plant in the first quarter of 2013 in a project worth up to $14 billion. Construction of the plants would be completed by 2020.

"The Azeri state oil fund as well as eximbanks (export-import banks) of those countries where we will be buying equipment will be financing this project," Socar President Rovnag Abdullayev said. Socar will act as a main shareholder in the project. The complex is designed to include an oil refinery with annual capacity of 10 million tons, a plant to produce liquefied natural gas (LNG) with an annual capacity of up to 15 billion m3 of gas, and a chemical plant, Socar Vice President Tofik Gakhramanov said. ■

BASF to Invest in New Site in Dahej, India

BASF India will invest €150 million to set up a new chemical production site at the Dahej Petroleum, Chemicals and Petrochemicals Investment Region (PCPIR), located on the west coast of India in Gujarat. The new site will be an integrated hub for polyurethane manufacturing and will also house production facilities for care chemicals and polymer dispersions for coatings and paper. The start of production is planned for 2014.

"The Dahej site complements the existing manufacturing set-up of BASF in India and will support and contribute to the growth of the Indian chemical industry," said Mr. Prasad Chandran, Chairman and Managing Director, BASF India Limited. "The location offers excellent investment conditions and a favorable business environment due to the proximity to raw materials as well as customers", he added.

The site will employ more than 250 people at full capacity, primarily in operations. ■

Lanxess Builds High-tech Plastics Center in Hong Kong

Lanxess is strengthening its ties with automotive customers in the growing Asia-Pacific region. The German specialty chemicals company will open a new application development center in the Hong Kong Science & Technology Park in the second half of 2012. The new center will have computer-aided development and engineering facilities, as well as a parts testing center, focusing on the company's high-tech plastics Durethan and Pocan. Lanxess has also just expanded its capacities for the high-tech plastics at its compounding plant in Wuxi, Jiangsu province, to approximately 60,000 metric tons per year. In addition, the company has just opened a new 20,000 metric tons per annum high-tech plastics compounding facility in Jhagadia, India, to serve the booming local market. ■

Chemical Manufacturing and

Customization vs. Modularization: Can World-Scale

Engineering – The 2008-2009 crisis signaled the start of a paradigm shift in chemical plant engineering and construction. Traditional EPC (engineering, procurement and construction) suppliers in the Western industrialized nations are facing increased competition from Asia. At the same time, the plant engineering teams at global chemical companies are intensifying their partnerships with EPC suppliers and spreading the workload across the international engineering resource base.

The recent economic crisis is nothing more than a distant memory for the chemical engineering, procurement and construction sector. In 2011 alone, chemical projects valued at more than $150 billion worldwide were announced, with the construction work to be carried out over the next three to four years. Even after that, the engineering teams are likely to remain busy.

As producers of bulk chemicals and standard polymers are locating production facilities near the sources of raw materials such as the Middle East and producers of specialty chemicals and high-performance plastics are setting up operations in the emerging sales regions such as Southeast Asia or India, the market for large plant construction is moving eastward. © SABIC

Significant Expansion Projects

BASF is planning to invest $30 billion to $35 billion in new facilities between now and 2020. The chemical industry is pursuing two general strategies. Producers of bulk chemicals (commodities) such as fertilizer and primary plastics including polyethylene and polypropylene, which are used in foil production, are locating production facilities near the sources of raw materials such as the Middle East. Working within the framework of the Sadara joint venture, Dow Chemical and Saudi Aramco began construction of an integrated chemical complex at Jubail (Saudi Arabia) last July. The $20 billion project is scheduled to begin producing 3 million metric tonnes of chemical products a year by 2016.

Producers of specialty chemicals and high-performance plastics are setting up operations in the sales regions. Following investments by BASF, Bayer, Evonik and Lanxess in Asia running into the billions, more projects have been announced recently. Bayer plans to invest an additional €1.8 billion in Asia between now and 2015, and BASF has earmarked €10 billion to €12 billion for construction projects in emerging countries. Specialty chemical producers Evonik and Lanxess made headlines last year with projects such as the €400 million butyl rubber investment (Lanxess) and a roughly €500 million methionine plant (Evonik) in Singapore.

However, the horizon extends beyond the emerging countries and Asia. Significant expansion is also taking place in Europe. In addition to a number of other new multi-million euro construction and expansion projects, which run well into the double-digit range, expansion of the chemical cluster is planned at the Port of Rotterdam (approximately €10 billion) and BASF has announced a €9 to €10 billion investment at its Ludwigshafen site. The company hit the headlines in January when it gave the green light to construction of a production complex for the flexible foam precursor toluene diisocyanate (TDI). The project is scheduled for completion in 2014, and the cost of the project is estimated at around €1 billion.

This project illustrates a number of paradigm shifts in the chemical industry and in plant engineering, procurement and construction. Now that chemical producers have made sustainability and energy efficiency a major strategic priority, synergies in production at the sites are becoming increasingly important.

"The investment decision on the TDI facility was based on more than just the production operation per se. The evaluation process included a holistic assessment of the energy and heat flows at the Ludwigshafen site," said Peter M. Gress, head of engineering at BASF.

The company plans to leverage advantages of scale and efficient integration in order to become Europe's most cost-efficient TDI producer. Claas-Jürgen Klasen, who is in charge of process technology and engineering at Evonik, shares the view that synergies on site are becoming increasingly important: "The central infrastructure at chemical parks provides opportunities for enhanced integration of energy and material resource utilization, which is why these parks are playing an increasingly important role in the industry."

Owner's engineers have outgrown the role of internal service departments at chemical companies. Their goal is to add value to the corporation. What may sound like marketing hype actually has real substance. Investment projects do not run in isolation. Instead, they are designed to make the greatest overall contribution. Higher investment costs may be deemed acceptable if, for example, integrated heat management, which includes other operations at the site, can reduce overall energy consumption. Klasen outlined the differences between conventional EPC and owner's engineering as follows: "To come up with the best technical solution, you need a detailed understanding of the markets, the specific product requirements profile, the raw material markets and overall production costs."

Plant Engineering of the Future

Plants Be Made Up of Standard Modules?

Jürgen Hinderer, head of engineering at Bayer Technology Services, agreed: "Completion on time and within budget in compliance with all of the quality and safety parameters requires a joint effort by the users, our highly skilled and experienced international engineering team and our suppliers throughout all phases of the project. That is what differentiates owner's engineers from other engineering and construction companies. The customer's money is our money."

In November, Bayer MaterialScience opened a large TDI plant (250 kT/a) in Shanghai. Production is based on new technology (gas phase phosgenation).

Technology and scale-up are not the primary considerations on the TDI project in Ludwigshafen. The real emphasis is on finding the best way to integrate the various elements of the project into the intricate workings of the site.

Collaborative Model

The holistic approach also results in a new collaborative model for allocating responsibilities among the chemical producer (user), the in-house engineering team and external EPC service providers. Instead of awarding a general contract to an EPC for delivery of a turnkey plant based on the user's own conceptual design where the project follows a rigid sequence from detailed design and procurement to construction, the project phases are now dovetailed. The EPC service provider is involved in the conceptual design at an earlier stage, and the user gains the flexibility to make changes during later phases of the project. This level of trust and close collaboration can develop only within the framework of strategic partnerships that transcend the boundaries of specific projects. These relationships can be built up between a chemical company's in-house engineering team and independent contractors.

The chemical industry will be relying on these long-term partnerships and framework agreements over the coming years to manage the large project workload ahead. Only in the context of these relationships will EPCs be willing to act as an extended arm of the owner's engineering team.

Strategic Partnerships

The EPC supplier base for the global chemical industry is no longer restricted to companies based in Western countries. Particularly in the wake of the economic crisis, Asian EPCs have become serious competitors. Prior to 2008, Chinese and above all Korean EPCs were often regarded as welcome junior partners that relieved Western engineering firms from responsibility for the labor-intensive and risky construction end of the business. Today, companies like Samsung often act as general contractors and only buy in technology from European companies. They attract business through aggressive pricing, a willingness to take risks, favorable strategic financial arrangements, political support and above all a willingness to take on large projects right through the construction phase. German EPCs understand the problem and are working hard to resurrect their own construction expertise, increase their level of vertical integration and enhance their presence in proximity to the customer.

EPCs and in-house engineering teams are also working on the price issue. Procurement of the equipment accounts for more than half the total value of an EPC contract. The strategy is based on best cost country sourcing. More of the labor-intensive equipment is now being procured from low-wage countries. For that strategy to work, the procurement team has to find the best trade-off between low purchase price, quality assurance costs and transportation charges. Stringent controls and personal relationships with suppliers are more important in China than water-tight contracts, according to industry insiders.

In order to systematically develop the necessary intercultural skills and reduce quality assurance overhead, owner's engineers and European contractors also intend to develop their human resource base in the procurement markets. Linde, for example, introduced a new procurement organizational structure in 2010. Six procurement centers act as the point of contact with suppliers in the regions. Chemical companies that are investing in China, India and South America are planning to take on additional engineering staff in those countries.

"The intention is to give country employees responsibility for local project management and work with local contractors to provide quality assurance services," Klasen said.

In addition, chemical companies want to leverage the strategic partnerships with global EPCs to gain access to their procurement expertise in global markets.

ACHEMA

World Forum of the Process Industry

Achema is the world forum of the process industry and the trend-setting technology summit for chemical engineering, environmental protection and biotechnology. The 30th Achema to be held June 18-22 in Frankfurt, Germany, will again be the leading international meeting point for decision-makers and experts from all related industries. Achema 2012 will provide a platform for new collaborative models and procurement strategies in plant construction. The event will highlight the contribution that plant engineering and construction can make to sustainable, efficient chemical production.

▶ www.achema.de

"We are giving our external partners greater responsibility for procurement without, however, relinquishing control," Gress said.

Doing the design work in Asia for plants that will be built in Europe and Germany has now become a reality. During the course of project activities in recent years, companies like Bayer Technology Services have developed engineering resources in Asia and have carried out plant design work there based on German standards. Jürgen Hinderer provided the following explanation of the Bayer strategy: "We continue to develop our engineering expertise in close proximity to our customer's production sites, so that we can provide optimal system availability and turnaround management. Owner's engineering is a lifecycle concept which is directed at sustained value creation for both partners."

Customization vs. Modularization

One trend that has been predicted on a number of occasions has not yet materialized in the chemical industry, namely world-scale plants made up of standard modules. At large plants, users customize the technological solutions to gain a competitive advantage. In the future, the integrated material flows discussed above will become increasingly important beyond the boundaries of the existing local units at a chemical production site. Integrated structures shared by multiple chemical companies at the chemical parks of the future will create synergies that contribute to the business success of the individual firms.

In the recent past, new developments in a number of conventional large-scale processes including chlorine electrolysis, ethylene oxide production and chlorine recycling have resulted in significant improvements in raw material and energy consumption, selectivity, and yield.

"There will continue to be quantum leaps in innovation at world-scale plants in the plastics and rubber industry and even in conventional sulfuric acid production. However, batch mode production is still widespread in the pharmaceutical industry, and there is still plenty of room for innovation," Hinderer said.

In contrast, new trends are appearing in multiproduct and fine chemical production. For special products that are produced in small volumes, time to market is vital along with a reduction of the market risks that exist between the product development phase and start of production. Small, versatile production operations based on standard modules, including containerized modules, appear to offer significant potential, and a number of research projects are under way. The Flexible Fast Future Factory (F3 Factory) concept is based on container-size modules that can be put together to create a production line. Investigations are now in progress at the Invite research center, which recently opened at the Leverkusen Chemical Park.

Special chemicals producer Evonik is taking a similar approach. The company is developing small-scale production systems in a sea freight container, which could be used for running the process at different locations. All of the process steps needed for production are housed in the container. If demand proves to be higher than expected, production can be expanded to multiple containers. Using this approach, lab development and basic engineering can take place in parallel, which saves time. The company has been producing silane compounds using a compact Evotrainer at its Rheinfelden site since 2010.

Under the umbrella of the EU Copiride research project, the company has been investigating ways of designing highly compact production systems in partnership with the universities of Eindhoven and Stuttgart and the Institut für Mikrotechnik (Institute for Microtechnology, IMM) in Mainz, Germany. A multipurpose container is expected to be ready this year for industrial-scale production of a special polymer at the Marl Chemical Park.

Container-scale chemical production may hold a lot of promise, but customized multiproduct solutions also will continue to have a place in the future production landscape. However, the budgets on these projects are normally so tight that little room is left for "future options." The production assets are tailored exactly to the intended application.

Summary

Three years after the world economic crisis, there is plenty of work to do in the chemical plant engineering and construction sector. The heavy workload is forcing engineering departments at chemical companies to forge strategic partnerships with traditional EPCs. To improve the sustainability and energy efficiency of the facilities that are on the drawing board, the industry is not only building world-scale plants on green field sites. It is also taking increasing advantage of integrated energy and raw material flows at chemical parks. Customized plant design remains the norm. There is no sign yet of modularization and standardization to any significant extent. Continued development of conventional production techniques in recent years has led to a series of quantum leaps in innovation. Strategies for modular, container-size production are under development in the special chemicals sector.

The article is based on a trend report compiled by specialized international journalists on behalf of Dechema Gesellschaft für Chemische Technik und Biotechnologie (Society for Chemical Engineering and Biotechnology), a nonprofit scientific and technical society based in Frankfurt am Main, Germany.

▶ www.dechema.de

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Linde to Construct On-site Plants for Sadara

German industrial gases and technology group Linde and Sadara Chemical Company signed a long-term contract that will see Linde supply Sadara with carbon monoxide (CO), hydrogen (H_2) and ammonia (NH_3) at a chemical complex being built by Sadara in Jubail, Saudi Arabia.

The on-site gases supply contract includes a HyCO facility for the production of CO and H_2 plus an ammonia plant. Linde will be investing $380 million in the project.

Linde's Engineering Division will design, deliver and construct the new turnkey gases facilities at Sadara's site in the Jubail 2 petrochemical cluster. The company will be building a two-stream HyCO plant, plus a single-stream NH_3 unit producing waterless liquid ammonia. Linde will also install a large NH_3 storage tank, resulting in a sophisticated supply concept which will enable the plant to run smoothly and reliably at all times. The production units are scheduled to be ready in 2015. Once built, they will be operated by Linde's Gases Division. Linde is setting up a local gases company for on-site support.

Sadara will use carbon monoxide, hydrogen and ammonia primarily for the production of aromatics, isocyanates (MDI and TDI), amines and hydrogen peroxide. Methylene diphenyl diisocyanate (MDI) and 2,4 toluene diisocyanate (TDI) are used in the production of polyurethanes. ■

Sartorius Opens New Biotech Building

Biotech production equipment supplier Sartorius opened a new manufacturing building at its headquarters in Goettingen, Germany for the production of membranes.

Ranking among the world's leading providers of laboratory and process equipment, the company invested some €25 million in extending its membrane production facility and in expanding laboratory capacity at its Goettingen site.

With a floor space of 6,000 m², or nearly 65,000 square feet, the new building offers ample room for the new plant machinery for manufacturing polyethersulfone membranes as well as laboratories and offices for more than 120 employees.

"We have not only invested in increasing our capacity but, at the same time, have also further enhanced our manufacturing processes, making them more adaptable. This investment enables us to respond even faster and more flexibly to high demand and to maintain our quality leadership in pharmaceutical filtration," Joachim Kreuzburg, CEO and Executive Board Chairman of Sartorius said.

Sartorius membranes are processed into specialty filters that are used to sterile-filter biopharmaceuticals or to recover active ingredients from liquids. Major customers for such membranes are companies in the pharmaceutical and biotech industries, which employ these filters for the production of medications in a large number of purification steps.

Construction of the new membrane production facility in Goettingen is one of the three major building projects on the basis of which Sartorius is now expanding its capacity levels.

To supply the North American market, the Sartorius Group is extending its site in Yauco, Puerto Rico. In the northern part of the Federal State of Hesse in Germany, a new manufacturing plant for bioreactors is being built in Guxhagen. ■

Synchronized Counting, Packaging and Labeling

Tablets in Bottles: A Packaging Solution for the Medium Output Range

Bottled Up – The Integrated Bottle Center 120 is a pharmaceutical-compliant integrated packaging line for tablets and capsules in bottles: A guided motion bottle transport system prevents micro-stops, product congestion and jammed bottles. Uhlmann has integrated all the necessary stations for the packaging process in a monoblock architecture that complies with good manufacturing practice. This system is now being supplemented by the specialist for packaging lines to include the Labeler L 250.

"The system is the ideal solution for the changing requirements in the medium output range," said Joachim Noe, head of Bottle Packaging Systems and New Applications. The Integrated Bottle Center 120 with the Labeler L 250 is being presented in June at Achema 2012 in Frankfurt (Hall 3.0, Stand F25).

An Option for the Medium Output Range

The Integrated Bottle Center 120 with the Labeler L 250 supplements the Uhlmann portfolio with packaging for the medium output range. The bottle filler for solid dose products may be converted for other bottle diameters in just six minutes. The reason for this lies in the small number of format parts and the absence of cleaning-intensive conveyor belts for bottle transport. Synchronized transport is taken care of by a format-free rake, thus opening up numerous possibilities for the packaging of medicines for differing markets and target groups. The Integrated Bottle Center 120 processes bottles 45 to 200 millimeters in height with a diameter of 25 to 125 millimeters. These may be round, square or oval. Within this format range the Integrated Bottle Center 120 can fill as many as 150 bottles or 24,000 tablets/capsules per minute.

Even at its maximum speed of 250 bottles per minute, the Labeler L 250 applies partial or full wrap-around labels with complete accuracy. It handles cylindrical plastic or glass containers between 25 and 125 millimeters in diameter and is available with hot stamping or thermal transfer, inkjet or laser printers. Monitoring systems with cameras, scanners, sensors, code readers or equipment for print and label integrity inspection are available. The Labeler L 250 has just one format part. Operators require one minute for a tool-free changeover. It figures that the Labeler L 250 ideally complements the efficient Integrated Bottle Center 120.

All the machine's functions may be controlled using an operator panel with touchscreen. Thanks to its graphical user interface, operation is intuitive, with all the format data stored in the control unit. Uhlmann can integrate other machines and components into this user interface – and if necessary even units from other manufacturers – networking these to form an efficient overall system.

In terms of its technology and process security, the bottle filler for solid dose products sets high standards. The tablets are first fed into the infrared counter via separation channels. Once the correct number of tablets has been reached, the Integrated Bottle Center 120 controls various memory flaps in the tablet counter. Here the drive system of the separation channels and memory flaps guarantees a continuous product flow, while infrared technology ensures 100 % accurate counting. Tapered hoppers prevent bridging of the solid dose products, and the machine is fully enclosed to protect operators and products. A further option is the conditioning of the product area, e.g., with dry air or a partial vacuum. A master shift register recognizes the position of every bottle in the machine, thus guaranteeing integrated process control. The 100% Good Packaging Philosophy ensures that only saleable bottles in the bottle discharge are forwarded to downstream processes. The frequency of the in-process control may be freely selected.


No more micro-stops, product congestion or ramp-up phases: The format-free rake that transports the bottles in the Integrated Bottle Center 120 contributes to the outstanding efficiency of the bottle filler for solid dose products.

Customizing Possible

Although the Integrated Bottle Center 120 already offers many possibilities, pharmaceutical manufacturers often adapt the machine in line with their needs. Depending on whether the production focus is on the counting capacity, bottle output or both, they may expand the tablet counter to have up to four counting modules and the capping unit to have as many as three capping heads. In this respect the Integrated Bottle Center 120 has been planned down to the finest detail: The servo-controlled capping unit handles all common types of caps and also offers torque control.

Security And Service

For added process reliability, users may also equip the line with Track & Trace by Uhlmann. This system marks all packaging units with consecutive 2D codes and facilitates the documentation of pharmaceutical supply chains, something that is being prescribed in an ever-increasing number of countries. The 2D codes contain all the quality-relevant process data for the packaging unit on which they are printed. In the Integrated Bottle Center 120, for example, Track & Trace by Uhlmann marks the base of the bottles and the labels. Cameras read in the codes and store the respective information in the Uhlmann Tracking database. This data may be accessed here at any time and linked to the code data from the next largest packaging unit. Track & Trace can be installed ex works in the individual machines or retrofitted.

Coordinated Overall Concept

With the Integrated Bottle Center 120 in conjunction with the Labeler L 250 and Track & Trace, pharmaceutical manufacturers can avail a coordinated solution for the cost-efficient packaging of batches. It may be expanded with other components from third-party manufacturers or Uhlmann to create a consistent, integrated system. To this end there is an extensive range of suitable cartoners and end-of-line packaging machines available. In this respect the Uhlmann experts integrate those units into a line that is tailored to the requirements of the pharmaceutical company. Or as Joachim Noe sums it up: "Our objective is to ensure the customer always receives the best possible system for his requirements."

Author: Oliver Naucke, Head of Marketing, Uhlmann Pac-Systeme

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The Integrated Bottle Center 120 and the Labeler L 250 allow pharmaceutical manufacturers to package many different solid dose products in bottles economically and with swift changeovers.

Biologics Manufacturing

Rentschler Facility Wins 'Facility of the Year Award' 2012 in Equipment Innovation

Pharmaceutical Technology – The new manufacturing facility of German biotech company Rentschler has won the 2012 Facility of the Year Award (FOYA) in the category "Equipment Innovation" for its flexible, multi-product manufacturing facility designed to minimize manufacturing costs and product cycle times. Design, engineering, and IT implementation services from concept to qualification of the facility had been provided by PHA, Leiden and PhC PharmaConsult, the Biotech and Pharmaceutical centers of excellence within the consulting and planning company I+O Industrieplanung + Organisation headquartered in Heidelberg, Germany.

The Facility of the Year Award (FOYA) of the International Society for Pharmaceutical Engineering (ISPE) was to be officially handed over at the pharmaceutical technology trade show Interphex in New York, May 1–3, 2012. FOYA is focused on recognizing state-of-the-art projects utilizing new, innovative technologies to reduce the cost of producing high quality medicines and to improve the quality of products. "This clinical manufacturing facility already paves the way towards the factory of the future for commercial biologics manufacturing," says Dr. Philipp N. Hess, Managing Partner PHA - Philipp Hess Associates and Partner at I+O.

Rentschler's new manufacturing facility in Laupheim, Germany consists of four independent, fully configurable multi-purpose clean room suites to be used with different processes as well as one inoculum suite. The new facility features a flexible space concept comprising independent, connectable all-purpose clean rooms designed for the operation of 100% mobile, single use manufacturing equipment for upstream and downstream processing. Due to the consistent use of single-use equipment, steam-in-place (SIP) and clean-in-place (CIP) operations are obsolete. All clean room suites include connections to the facility-wide data logging system (DLS), which is preconfigured for plug and play setup of mobile manufacturing equipment. Further optimization was achieved based on lean logistic and manufacturing principles and the consequent implementation of a visual factory concept. The modular concept allows fast implementation of alternative production equipment according to the customers' requirements.

"With this award-winning facility, we can offer our clients substantial cost benefits for custom manufacturing of biologics for clinical trials", said Thomas Siklosi, Senior Vice President GMP Operations at Rentschler Biotechnologie.

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The Impact and Future of REACh

ECHA's Director of Risk Management Speaks about the Progress and the Impact of REACh

REACh – The European Union chemicals regulation REACh (short for Registration, Evaluation, Authorisation and Restriction of Chemicals) requires all companies manufacturing or importing chemical substances into the EU in quantities of one tonne or more per year to register these with the European Chemicals Agency (ECHA) in Helsinki, Finland. Dr. Jack de Bruijn, Director of Risk Management at ECHA, is responsible for identifying and implementing the authorization and restrictions processes under REACh, as well as managing the classification-related tasks resulting from the Classification, Labeling and Packaging (CLP) Regulation. Dr. Vera Köster from Wiley-VCH talked to him for ChemViews magazine about REACh, its international impact, and its future.

Dr. Jack de Bruijn, Director of Risk Management, ECHA © ECHA

CHEManager Europe: Dr. de Bruijn, what is your role within ECHA regarding REACh?

Jack de Bruijn: REACh is what we call a horizontal legislation. It covers all basic chemicals that the industry manufactures, imports, and puts on the European market. REACh sets the framework and basically tells the industry that it is their own responsibility to make sure that these chemicals are safe in terms of their use as well as their customers' use. And, therefore, the industry has to provide basic information, toxicological and eco-toxicological information, and physical chemical properties-depending on the tonnage. They have to have this information available and to provide it to ECHA. In terms of evaluation we look in detail at the information and figure out if this is in line with the legislation and if there are cases — not only from evaluation, but also from other routes — where we think that there is an authority intervention needed. Then we get to a discussion about introducing risk management measures such as authorization and restrictions. Most of the normal risk management should go via the industry route.

Do you see differences between different countries in this?

J. de Bruijn: REACh has taken over the previous chemicals legislation and although there were differences, I think for a long time the implementation of the directives was done in a quite similar manner in all European countries. Of course there are different practices in how companies follow the directives, which is very much related to the culture, but also to what extent countries have enforced the rules. And whether they really have gone out and checked what companies were doing.

But a lot of the chemical industry is European or even worldwide oriented and organized. And in particular during this first phase of registration, we are dealing not only, but mostly with bigger companies. Although they are based in one country, they have very often been acting internationally for a long time, so for those companies I don't expect that there will be big differences in how they implement REACh in Europe.

What is the international impact of REACh?

J. de Bruijn: A lot of the countries outside the EU have been following the REACh developments a lot and a number of countries have since then also implemented new chemicals legislation, some relatively close to what is happening in the EU and REACh, some like South Korea may be somewhat similar but with some differences. But I think it has definitely triggered a worldwide review of each country's own chemicals legislation, to see if they need to adapt to what is happening in Europe. So Europe has been leading the development in that sense.

There have been quite a lot of countries — and this has also been debated a lot during the negotiations — who did not really believe that REACh would work. But I think they have moved away from that. They have started realizing that REACh has actually worked: We have managed the first deadline; industry has done a tremendous job of gathering all the information and collaborating between themselves. So these positive developments have probably provided a big boost for many to actually do something in their own countries.

> *"REACh has triggered a worldwide review of each country's own chemicals legislation."*

REACh only deals with chemicals produced in quantities greater than a tonne. Do you think that lower tonnage chemicals also pose a risk which is missed out by REACh?

J. de Bruijn: This, of course, was debated a lot when the REACh legislation was built because the previous legislation had lower tonnages in terms of notification of new chemicals. We run a certain risk that indeed there might be chemicals of below one tonne, which could be problematic. On the other hand, this is a relatively low mark.

Do you think this is something for a future update of REACh?

J. de Bruijn: No. I think the only real update that is planned is to look at the information requirements between one and ten tonnes, which are now definitely lower than they were in the previous legislation. The commission will look at what has been put in the legislation again around 2018. I don't know what is going to happen on the lower tonnage. I would be a bit surprised if it would really be changed.

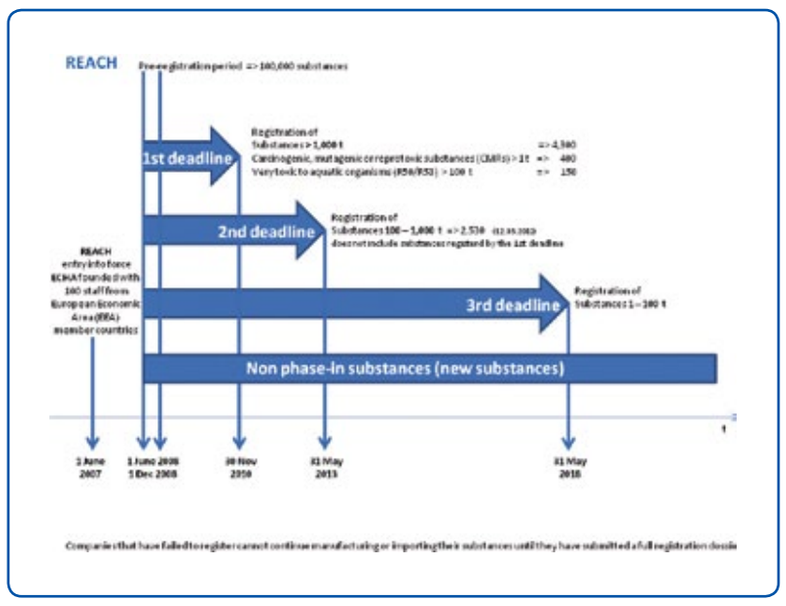
Can you say if there are any other aspects which should be improved?

J. de Bruijn: This is a difficult question, as our evaluation colleagues are still very much focused on getting the test proposals through their system. They are also looking at compliance check and the contents of the dossiers, but not very many yet.

What we see is that the quality of the information could definitely improve still. This has already been recognized last year in our own report on the first phase of REACh. There are good dossiers and there are also dossiers, which are definitely not of appropriate quality, and we will, of course, do further assessments and compliance checks and come back to these companies.

Do you think REACh has a positive effect on the public perception of chemistry?

J. de Bruijn: This is a very difficult question because there is definitely a negative perception among the public. One good thing of REACh is that it makes a lot of data available and at least collects everything that is available so we will have, at some point, a much better view of what is actually happening in the market. This includes information on which chemicals are used and also roughly where they are used, and in what way. We disseminate a lot of this information on our website. So in principle it is available. But, of course, it is not easy to understand or to access by the general public.



Timetable: May 31, 2013 is the second, important deadline for registrants under REACh. All substances manufactured or imported above 100 t/a have to be registered. © ChemistryViews.org

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Evonik Offers PA12 Substitutes

Three weeks after the fire in the CDT plant in the Marl Chemical Park, Evonik Industries is offering various substitutes for polyamide 12 (PA 12), which will be available only in smaller volumes during plant repairs: The extrusion and injection molding compounds based on PA 610, PA 612, PA 1010, and PA 1012 do not require CDT as precursor. They are suitable for use in line systems in the automotive supply industry, including the multi-layer tubing systems patented by Evonik.

The materials offer technical properties that are comparable with those of PA 12 and have similar processability. Substitutes for Vestosint PA 12 powder will also become available within the next few weeks.

At present, the CDT plant is expected to be operational again in the Q4 of 2012. The regulatory authorities are still investigating the cause of the accident. ■

Lonza, Agennix Sign Deal for Production of Talactoferrin

Lonza and Agennix announced an agreement for the production of Agennix's first-in-class oral Dendritic Cell Mediated Immunotherapy (DCMI), talactoferrin, currently in Phase III testing for the treatment of non-small cell lung cancer (NSCLC). Under the agreement, Lonza will produce commercial material at its microbial manufacturing facility in Kouřim, Czech Republic. This agreement initiates the process needed to be able to ultimately seek approval for Lonza as a second manufacturer of talactoferrin after the initial commercial launch. ■

Momentive to Close German Plant

Momentive Specialty Chemicals has announced that it has commenced consultations with the Works Council to cease production of formaldehyde and formaldehyde-based resins at its German Leuna site. This action will better align European market demand for forest products with the company's existing assets. The Company intends to cease production at the Leuna plant by June 30, 2012. ■

Group Asks for Withdrawal of Victoza Diabetes Drug

Watchdog group Public Citizen urged U.S. regulators to withdraw approval of Novo Nordisk's diabetes drug Victoza, saying it increases the risk of serious health problems like thyroid cancer and kidney failure. Public Citizen said the drug was approved in 2010 against the advice of three reviewers from the U.S. Food and Drug Administration, according a petition filed to the FDA on Thursday.

"The (approval) was a huge blow to the health and safety of diabetics in this country," Dr. Sidney Wolfe said, director of Public Citizen's Health Research Group, in an interview. Wolfe also serves as the consumer representative on the FDA's advisory panel for drug safety and risk management.

The FDA said it will review the petition and respond directly to Public Citizen. Denmark-based Novo said the FDA reviewed data from almost 4,000 patients before deciding to approve Victoza, and that doctors and patients should be confident in the drug's safety. ■

Merck Serono Sets Up Biotech Incubator in Israel

Merck Serono, the biopharmaceutical division of German drugs and chemicals group Merck KGaA, inaugurated a biotech incubator at Inter-Lab, its research and development center in Israel.

This is the first biotech incubator established by a multinational pharmaceutical company without any financial support by the Israel government, Merck said.

The new incubator will offer companies seed financing and the use of Inter-Lab's site for their research.

Merck Serono made a commitment to invest €10 million ($13.1 million) in the biotech incubator program between 2011 and 2018.

"The aim of the biotech incubator is to accelerate the successful entrepreneurial development of start-up companies in Israel. That's because, in our view, innovation is about translating science into business," said Dr. Karl-Ludwig Kley, CEO of Merck.

Regine Shevach, Inter-Lab's managing director, said more than 100 requests from entrepreneurs and scientists had been received and were being evaluated. ■

BASF Acquires Novolyte Technologies

BASF, Arsenal and Foosung announced BASF's acquisition of Novolyte Technologies, based in Cleveland, Ohio (USA). Novolyte is a manufacturer of electrolyte formulations for lithium-ion batteries, as well as specialty chemicals for several key market segments. With 167 employees, Novolyte operates sites in the United States and China. BASF purchases Novolyte from Arsenal Capital Partners, a U.S.-based private equity firm. Financial details were not disclosed.

The acquisition comprises Novolyte's Energy Storage activities focused on developing, producing and marketing performance electrolyte formulations for lithium-ion batteries. BASF also buys Novolyte's performance materials business in which the company is among the leading manufacturers of specialty chemicals in North America. The portfolio includes aryl phosphines, high-performance solvents and custom-made specialties. The acquisition includes 10 patent families in the fields of electrolyte formulation and performance chemicals held by Novolyte. Additionally within the framework of the acquisition, BASF will continue a joint venture of Novolyte with Korean partner Foosung Co., Ltd., a global producer of the high-purity specialty salt lithium hexafluorophosphate (LiPF6), a key material for manufacturing lithium-ion battery electrolytes. These electrolytes are key performance components in the fast-growing market of lithium-ion batteries for automotive, consumer and industrial markets.

Novolyte operates production sites in Baton Rouge, Louisiana, USA, and in Suzhou, China. An additional site for LiPF6 production is currently under construction in Nantong, China, to be operated by the Foosung/BASF JV. Both Chinese sites are located in the greater Shanghai area.

"With this recent acquisition, BASF is now positioned as a global supplier of lithium battery electrolytes with production sites in Europe, the United States and Asia Pacific region", Dr. Andreas Kreimeyer said, Member of the Board of Executive Directors and BASF's Research Executive Director. "The acquisition also complements our current offering of amines, diols, organic acids, polyalcohols and specialties and strengthens our footprint in the North American market."

"Our acquisition of Novolyte Technologies further positions BASF to achieve its long-term objective of becoming the leading provider of functional materials and components to serve cell and battery manufacturers worldwide," Ralf Meixner said, Senior Vice President of BASF's Global Battery Materials Business. ■

Sustaining Innovation

Protection of Secrets, Elimination of Barriers are Key for U.S. Chemical Industry's Growth

Balancing Transparency and Confidentiality – One of the biggest challenges facing chemical companies in the United States is one that isn't making major headlines but is being discussed in boardrooms everywhere. The issue is the proposal by the U.S. government to require greater public access to company trade secrets.

While there have been widespread reports that China allegedly stole trade secrets from DuPont, most people don't know that the U.S. Environmental Protection Agency (EPA) may soon facilitate these types of activities by changing existing rules regarding confidential business information (CBI). Nowhere would an action like this have a greater effect than on specialty chemical manufacturing, which is one of the most innovative manufacturing sectors in the U.S.

Under the Obama administration, the EPA has stepped up its efforts to increase transparency of chemical substances falling under the Toxic Substances Control Act, a 35-year-old statute governing chemicals management. As the leading trade association for the batch, custom and specialty chemical industry, the Society of Chemical Manufacturers and Affiliates (SOCMA) has supported the agency's efforts to increase access to information on chemicals. However, the association believes that cases like DuPont's would be far more commonplace if EPA's proposed rule on chemical identity came to fruition.

Chemical Identity Drives Innovation

Industrial espionage is a serious and omnipresent threat to American manufacturing. Disclosing chemical identity would serve only as an opportunity for competitors, many of which are overseas, to mine U.S. intellectual property. Given the narrow applications for which specialty chemicals are used and the niche markets they serve, disclosure of chemical identity may be all it takes to give away a competitive advantage and result in less innovation in the U.S. In many cases, the confidentiality of chemical identity is all a specialty chemical producer has to remain in business.

As EPA pursues its goal to increase the public's understanding of the potential risk posed by chemicals, it should make every possible effort to strike the right balance between informing the public and promoting innovation. The incentive to develop greener chemicals largely disappears if prospective manufacturers know the risk is high of having their idea revealed. One SOCMA member recently told a group of government agency watchdogs that innovation is what keeps her company in business.

Breaking Down Trade Barriers

While there are clear challenges on the horizon for U.S. chemical manufacturers, such as EPA's proposal, there are also opportunities to further business growth. Last year, after much work and negotiation, President Obama signed free trade agreements with Colombia, Korea and Panama. The Korea agreement entered into force in March, but similar progress has not yet been made with Colombia and Panama.

SOCMA also supports further integration and reducing barriers between the U.S. and EU and would support a U.S.-EU free trade agreement and any efforts aimed at breaking down barriers between the world's largest trading partners. The High-Level Working Group on Jobs and Growth established at the Transatlantic Economic Council between the United States and the European Union last November is developing policy recommendations to eliminate regulatory barriers, grow jobs and strengthen the economies on both sides of the Atlantic. SOCMA is looking forward to the working group's recommendations, which are expected in June and December.

As the Obama administration continues to promote U.S. manufacturing, SOCMA will continue to push for fair and practical laws and regulations both domestically and internationally that benefit the chemical manufacturing sector. This will help ensure that specialty chemical makers can continue to manufacture innovative products and capitalize on emerging markets overseas. SOCMA applauds the administration on the things it is doing right, such as pushing free trade agreements and fighting to eliminate barriers to trade, but it is highly concerned about positions that undermine American manufacturing, such as mandating trade secret disclosure.

Author: Bill Allmond, vice president of government and public relations, Society of Chemical Manufacturers and Affiliates (SOCMA), Washington D.C., USA

► www.socma.com

Lanxess to Employ Evocatal Biotechnology

Lanxess is cooperating with biotechnology expert Evocatal in the development of biotechnological methods for the synthesis of precursors for the rubber production.

The goal of the project is to make use of local renewable materials in the manufacture of rubber upstream products. Until now, rubber manufacturers have worked exclusively with fossil-based materials. The two partners will be developing a biological method to help preserve resources and reduce emissions. The cooperation aims at identifying new pathways for synthesis and developing effective biocatalysts.

Launched in September 2011, the partnership is part of the "ThRuBio" project (Thermoplastics and Rubber via Biotechnological Synthesis), a research consortium that includes Evonik, Lanxess and the Technical University of Munich.

The research project, which is slated to continue until 2014, is receiving support from the German Federal Ministry of Food, Agriculture and Consumer Protection (BMELV) via the Agency for Renewable Resources (FNR). ■

SOCMA Announces Launch of SCD-iBIO Group

The Society of Chemical Manufacturers and Affiliates (SOCMA) announced the launch of SCD-iBIO, a new affiliate group that aims to advance the commercialization of industrial biotechnology, which is the application of biology for the production and processing of chemicals, pharmaceuticals, materials and energy. The group is referred to by its acronym, which stands for the Society for the Commercial Development of Industry Biotechnology.

"With industrial biotechnology rapidly emerging as a key technology for economic growth on a global scale, SCD-iBIO will help member companies achieve their common objective of creating a sustainable chemical industry," SOCMA President and CEO Lawrence D. Sloan said. "We welcome them into our family of affiliate groups and look forward to helping them achieve their goals."

Sloan added that the formation of the group also supports SOCMA's organizational goal to expand its representation across more sectors of the chemical space.

"We feel that industrial biotechnology is at an inflection point, and the practice of commercial development would accelerate the penetration of the field," Larry Drumm, Executive Director of SCD-iBIO said.

Members of SCD-iBIO are dedicated to developing and commercializing products that are:

- Derived from renewable feedstocks;
- Manufactured by green process technology;
- Produced with lower life-cycle carbon emissions using bioprocesses;
- Companies that are part of the value chain.

► www.scd-ibio.org

chemanager-online.com/en/tags/socma

EVENTS

GPCA Supply Chain Conference 2012, May 8-9, Dubai, United Arab Emirates
Continued staggering growth in petrochemical production within the GCC has led forecasters to predict that by 2015 the overall share of the Gulf region in the global petrochemicals market will rise from 15% to 20%. This is already putting a huge demand on the region's supply chains. Building on the successes of past events, the 4th Supply Chain Conference of the Gulf Petrochemicals & Chemicals Association (GPCA), the largest petrochemical and chemical supply chain event focusing on the GCC region, takes as its central theme 'Optimization through collaboration'. Delegates will have the opportunity to explore in detail what strategies the supply chain is implementing to make its activities more efficient and deliver better end-to-end value by working more collaboratively.

► www.gpcasupplychain.com

ChemSpec Europe 2012, June 13-14, Barcelona, Spain
As Europe's only dedicated fine and speciality chemicals event, Chemspec Europe is focused on providing its attendees access and networking opportunities to blue chip and SME suppliers from around the globe. The event will be showcasing a series of conferences, seminars and workshops held over both days of the show for both exhibitors and visitors to attend. The Regulatory Issues Corner will feature a dedicated seminar theatre focused on a range of topics surrounding REACh and regulatory issues. The two day RSC Speciality Chemicals Symposium of the Royal Society of Chemistry will highlight recent advances in improving the sustainability and efficiency of processes in the scale up and production of speciality chemicals.

► www.chemspecevents.com

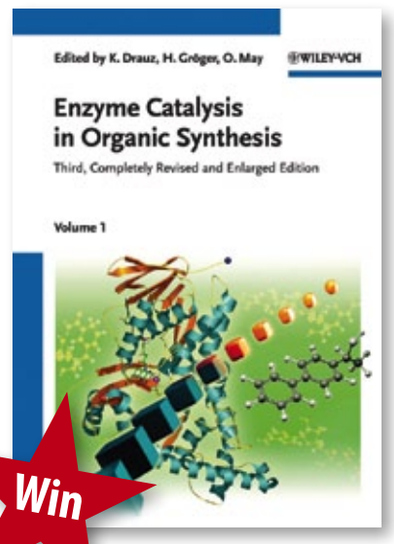
15th International Congress on Catalysis 2012, July 1-6, Munich, Germany
The field of catalysis has dramatic progress through emerging connections among its underlying scientific disciplines and among research groups through high-profile scientific networks. Catalysis will remain one of the key technologies leading to sustainability in the synthesis of energy carriers and chemicals. The 15th ICC will be a platform to exchange new ideas and to discuss developments in all areas of catalysis. Renowned plenary and keynote speakers will present overviews of recent developments. Four parallel oral sessions and two general poster sessions will be complemented by cross disciplinary sessions, organized to share new results at the boundaries between established fields within catalysis. The theme of the congress, "From fundamental understanding to catalyst design and novel processes", charts the routes to step-out advances in catalysis from its roots in basic catalytic phenomena.

► http://events.dechema.de

2012 ChemOutsourcing Conference & Exhibition, September 10-13, Long Branch, New Jersey, USA
ChemOutsourcing is a unique, annual pharmaceutical chemistry show. The event hosts a conference with over 100 speakers, mostly chemists from pharma and biotech companies, and an exhibition for 100 chemistry service providers. Every year, increasing numbers of small molecule biotechnology company chemists are speakers and attendees at the show. The conference discussions center around Chemistry Sourcing/Outsourcing, Process R&D, Chemical Development, CMC, Procurement, Medicinal Chemistry, Drug Discovery, and New Chemical Technologies.

► www.chemoutsourcing.com

Enzyme Catalysis in Organic Synthesis



Optimized by nature over the millennia, enzymes are catalysts that play a crucial role in the transformation and degradation of essential molecules in living organisms. Biocatalysis and biotransformations have been part of our daily lives for thousands of years, the most obvious examples being the production of beer, wine and vinegar. Most of the enzymes used in biocatalysis today are of microbial origin (bacteria, fungi or yeast), while a few are of plant or mammal origin.

The handbook "Enzyme Catalysis in Organic Synthesis", available as a comprehensive three-volume set, is the standard reference in the field of organic synthesis, catalysis and biocatalysis. Edited by a highly experienced and knowledgeable team with a tremendous amount of experience in this field and its applications, this 3rd, completely revised and enlarged edition retains the successful concept of past editions, while the contents are very much focused on new developments in the field. All the techniques described are directly transferable from the lab to the industrial scale, making for a very application-oriented approach. The must-have book for all chemists and biotechnologists is now available at an introductory price (valid until June 30, 2012).

CHEManager Europe raffles one set of the handbook among its readers. If you are a researcher in the chemical or life science industry or a university scientist, email us at chemanager@gitverlag.com and use subject line "Catalysis Handbook" in order to partake in the drawing. Closing date is May 31, 2012.

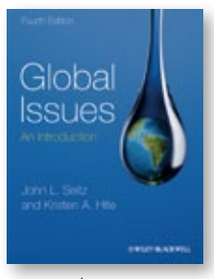
► Enzyme Catalysis in Organic Synthesis
Handbook/Reference Book
Karlheinz Drauz, Harald Gröger, Oliver May (eds.)
3., completely revised and enlarged Edition - 449.- € (introductory price valid until June 30, 2012,thereafter 499.- €)
Wiley-VCH, Weinheim, 2012
ISBN: 978-3-527-32547-4

G.I.T. InnovationsAward 2012

Many manufacturers of research and laboratory equipment have submitted their innovative lab solutions for the G.I.T. InnovationsAward 2012, organized by Wiley-VCH's market-leading magazines GIT Laborfachzeitschrift and G.I.T. Laboratory Journal Europe. An independent jury of renowned and established scientists has narrowed down the choice from a large number of submissions. Categories are: Analytical Instrumentation and Software, Biotechnology and Life Science, Laboratory Equipment & Technology and Furniture & Accessories. Until June 22 users of lab equipment may vote and decide about the winner in each category. Every voter is eligible to win an e-book reader and book vouchers.

► www.pro-4-pro.com/innovationsaward2012

Global Issues



The extensively revised and updated Fourth Edition of Global Issues: An Introduction offers a unique approach to the most important environmental, economic, social, and political concerns of modern life. The only book of its kind to use the concept of development to illustrate how different global issues are interrelated does also include a new section on nuclear energy. Key features include a glossary of terms; guides to further reading, media, and Internet resources; and suggestions for discussing and studying the material.

► Global Issues: An Introduction, 4th Edition
John L. Seitz, Kristen A. Hite (eds.)
Wiley-Blackwell, 2012
ISBN: 978-0-470-65564-1

PEOPLE

Ton Büchner

Ton Büchner has been appointed CEO of AkzoNobel by the Supervisory Board at the company's Annual General Meeting in April. The former CEO of Swiss engineering company Sulzer, who joined AkzoNobel in January, took over the helm of the Dutch coatings and specialty chemicals company from Hans Wijers as announced in June 2011. At AkzoNobel's General Meeting Keith Nichols was reappointed to the Board of Management for another four-year term, and Leif Darner was reappointed for a two-year term. Rob Frohn stepped down from the Board of Management effective May 1, 2012.

J. Erik Fyrwald will join chemical distributor Univar as president and CEO effective May 7. Fyrwald, age 52, was president of Ecolab that merged with Nalco in December 2011. Univar's current President and CEO John J. Zillmer will assume the position of executive chairman of Univar and its board of directors, succeeding William S. Stavropoulos, who will move to the role of lead director. Earlier this year, Univar announced that John R. Donovan joined the company as executive vice president and chief growth officer, responsible for strategic growth and the development of the company's global business relationships.

Richard Ridinger

Richard Ridinger has become new CEO of Lonza effective 1 May succeeding Rolf Soiron who was acting CEO ad interim since the end of January after the dismissal of Stefan Borgas. Ridinger, age 53, has held numerous leadership functions at Henkel for 14 years and Cognis (now a part of BASF) for 11 years. The Lonza Board of Directors also appointed Marc Funk, Group General Counsel and Board Secretary, to become a member of the Management Committee. Funk joined Lonza in January 2009; prior he was associate general counsel at Merck Serono.

Mark C. Rohr

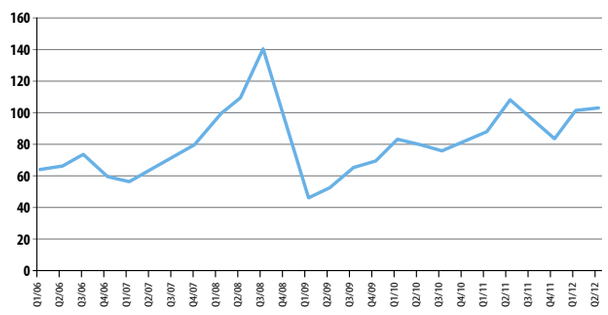
Mark Rohr has been appointed new CEO of Celanese in April after the retirement of David Weidman. Rohr, 60, is also chairman of the board of directors of the Dallas-based chemical company and sits on the board of directors of Ashland, a Celanese peer, and the American Chemistry Council (ACC). He wants to move Celanese toward an investment-grade credit rating and pay down its $2.87 billion in long-term debt. Rohr, who resigned as CEO of Albemarle last summer and as the company's chairman on Feb. 1, also said that acquisitions at Celanese are likely, with "a lot of M&A potential".

Sherilyn McCoy was named new CEO of Avon Products. The appointment of the former Johnson & Johnson senior executive, who was seen as a candidate for that company's top job earlier this year, ended a four-month outside search for a fresh face to replace charismatic Chairman and CEO Andrea Jung, and turn Avon around.

Donald Casey has been named new Head of Medical Business at Cardinal Health. Casey joins Cardinal from the Gary and Mary West Wireless Health Institute. He will report to Cardinal CEO George Barrett. A former Johnson & Johnson executive – Casey spent 24 years at J&J, most recently as a member of the company's executive committee – replaces Mike Lynch to lead the $9 billion medical products and services business of the U.S. pharma wholesaler.

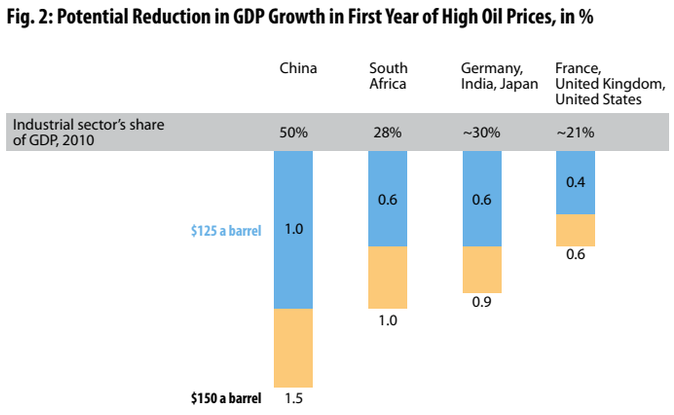
Impact Scenarios of Another Oil Price Spike

Fig. 1: Crude Oil Price History



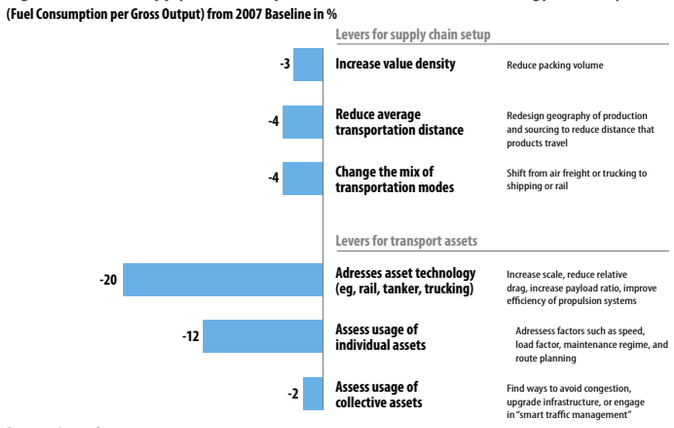
Source: New York Mercantile Exchange (NYMEX) © CHEManager Europe

Fig. 2: Potential Reduction in GDP Growth in First Year of High Oil Prices, in %



Source: McKinsey © CHEManager Europe

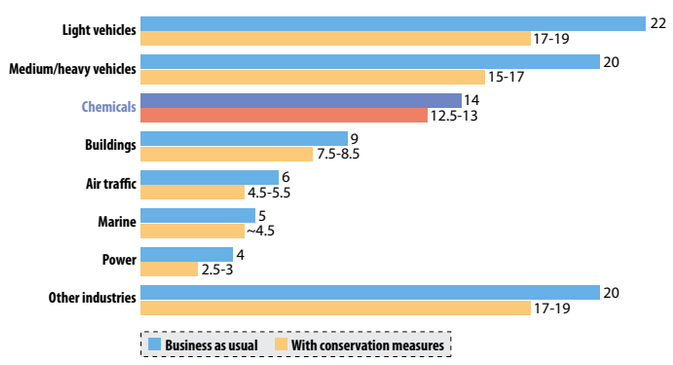
Fig. 3: Levers for Supply Chain Setup and Potential Reduction in Energy Intensity
(Fuel Consumption per Gross Output) from 2007 Baseline in %



For notes please refer to:
https://www.mckinseyquarterly.com/Energy_Resources_Materials/Oil_Gas

Source: McKinsey © CHEManager Europe

Fig. 4: How Might a Sustained Oil Price Spike Affect Demand?
Demand for Liquids [1], Million Barrels a Day (mbd), Rounded Estimates



[1] All liquid fuels derived from crude oil, natural-gas liquids (NLGs), biofuels, gas to liquids (GTLs), and coal to liquids (CTLs).

Source: McKinsey © CHEManager Europe

The world is very far from running out of oil. However, it's possible, though far from certain, that oil prices will spike in the years ahead. Emerging markets are still in the midst of a historic transition toward greater energy consumption. When global economic performance becomes more robust, oil demand is likely to grow faster than supply capacity can. As that happens, supply and demand could collide — gently or ferociously, says global management consulting firm McKinsey & Company.

The likelihood of oil price volatility combined with related uncertainties — such as the potential for swings in the dollar versus other currencies — makes it even more random as in the past to predict medium-term oil prices (compare Fig. 1).

One scenario that's sufficiently plausible and underappreciated: the prospect that within this decade, the world could experience a period of significant volatility, with oil prices leaping upward and oscillating between $125 and $175 a barrel (or higher) for some time. The resulting economic pain would be significant. Economic modeling by McKinsey suggests that by 2020, global GDP would be about $1.5 trillion smaller than expected, if oil prices spiked and stayed high for several years.

If crude-oil prices rose to $125 a barrel or above and stayed there long enough global growth would undoubtedly suffer. McKinsey estimates that this type of shock would drive down global growth by 0.6 to 0.9 % in the first year (Fig. 2). The modeling suggests that the country-level impact of spiking oil prices would be quite uneven — and not just because of differences in the energy efficiency of various economies. Even more important are variations in the relative size of the industrial sector in different countries. Export-oriented advanced manufacturing economies, such as Germany and Japan, are more vulnerable than their relative energy efficiency might indicate.

McKinsey also describes energy-efficient supply chain strategies that some companies are already undertaking (Fig. 3). Building a supply chain that can withstand high oil prices would still make economic sense even if oil prices were as low as $40 a barrel. The potential would be even greater at higher prices. Research conducted by McKinsey three years ago, when oil prices shot up to $125 and beyond, indicated that a variety of actions would collectively reduce the energy intensity of global supply chains by almost one-fourth, and energy intensity could be reduced by more than one-third if oil prices stayed above $100 a barrel for a prolonged period.

Projections suggest that in a "business as usual" scenario — assumed that between 2010 and 2020 the world economy will grow at 3.0 to 3.5 %, a rate currently anticipated by many analysts and that oil prices won't significantly exceed $100 a barrel during this period — the world could reach a realistic supply capacity of around 100 million barrels a day by 2020, up from about 92 million today. Conservation measures could reduce oil demand by 10 million to 20 million barrels a day (Fig. 4).

Reduction measures may be immediate or structural. In the long run, structural changes could well be a positive development for the world — resulting in more predictable and sustainable energy supplies and prices. But navigating the transition would be challenging and would reward the well prepared. The time is now for companies to start planning for the possibility of another price shock and a powerful market response.

Exxon, Rosneft Unveil Offshore Venture

U.S. oil major ExxonMobil and Russia's state-controlled Rosneft unveiled an offshore exploration partnership that could invest upward of $500 billion in developing Russia's vast energy reserves in the Arctic and Black Sea. The deal, between the world's largest listed oil firm and the world's top oil producing nation, was the product of nearly a year of talks.

Under the deal, Exxon and Rosneft will seek to develop three fields in the Arctic with recoverable hydrocarbon reserves estimated at 85 billion barrels in oil-equivalent terms. For Exxon, the partnership secures an Arctic prize that was coveted by British oil major BP before its own talks with Rosneft collapsed last May. Exxon moved quickly to seal an outline deal in August to create a joint venture that would plough an initial $3.2 billion into exploring the Kara Sea and Black Sea.

Rosneft will have a two-thirds stake in the venture, while Exxon would own a third and shoulder the initial exploration costs. If the reserve base is confirmed, total investments could exceed $500 billion in the coming decades. ■

Rhodia, Tantalus to Cooperate on Rare Earth Project

Rhodia, member of the Solvay group, and German raw material exploration firm Tantalus Rare Earths signed a Letter of Intent relating to technical cooperation in process development for generating rare earth concentrates in Madagascar and the exclusive supply of these rare earth products to Rhodia.

The large near-surface Tantalus rare earth project in Madagascar is emerging as one of the largest clay hosted rare earth resources outside of China, with 130 Mt of rare earth oxide ("REO") bearing clays already identified from a small portion of the project area on the Ampasindava Peninsula in north-western Madagascar. Analysis of the Tantalus material has shown that approximately 20 % of the REO's are in the valuable "heavy" category.

The LOI will be followed by a definitive Technical Cooperation Agreement and Offtake Agreement for up to 15,000 tons per year of rare earth products from Tantalus. ■

Playful Polypropylene Every child loves pint-sized versions of their parents' belongings. To fulfil those desires, Flux Furniture has created a miniature version of its award-winning foldable and portable Flux Chair. In line with the adult model, the junior model is molded from polypropylene (PP) resin from SABIC. The material's excellent strength to weight ratio enables the Flux Junior to withstand active use while allowing kids to move the chair easily. It also provides outstanding durability and resilience so the chair can be used outdoors. The high-performance block copolymers offer a good blend of properties that enable thin hinges to be incorporated into the thicker, rigid chair body.

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