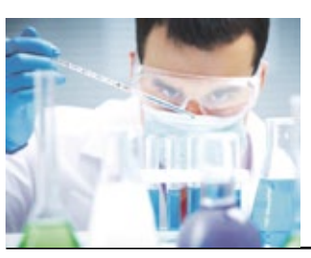
CHEManager EUROPE

11/2012 November

THE NEWSPAPER FOR THE CHEMICAL AND LIFE SCIENCE MARKETS



Strategy

The European chemical industry is facing challenges as value chains move eastward

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Engineering

Uhde provided engineering and supply services for a new fertilizer complex in Algeria

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Newsflow

Sales & Profits
BASF, Bayer, Evonik and Lanxess still expect to meet earnings forecasts for 2012, which in most cases foresee further improvement against the record 2011 results. Clariant and Arkema said that Q3 performance was stable despite a volatile environment and weakening markets.

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Companies
Dow Chemical and DuPont have announced plans for massive job cuts after a bleak third quarter and expectations of a further weakening in the short-to-medium term.

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Investments
ThyssenKrupp Uhde has been selected by CF Industries to provide engineering and supply services for two fertilizer complexes in the USA. Overall expenditure on the projects will total $3.8 billion.
Air Liquide has signed a licensing agreement with Petrobras. For a new world-scale gas-to-chemicals complex in Linhares, Air Liquide is the licensor for the Integrated Unit, which will produce syngas, methanol, ammonia, power and steam.

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Markets
Chemical and petrochemical companies are fairly pessimistic about the current state and future prospects of the European market, says a new survey conducted on behalf of Camelot Management Consultants.

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The Valence Group has evaluated chemical sub-sectors in order to generate a map of the chemical industry from the standpoint of business characteristics and overall attractiveness for investors.

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Feedstocks
While the U.S. is embracing the shale gas boom, European Countries are discussing the safety of fracking and other regions just don't have the ideal geology to tap their shale gas reservoirs.

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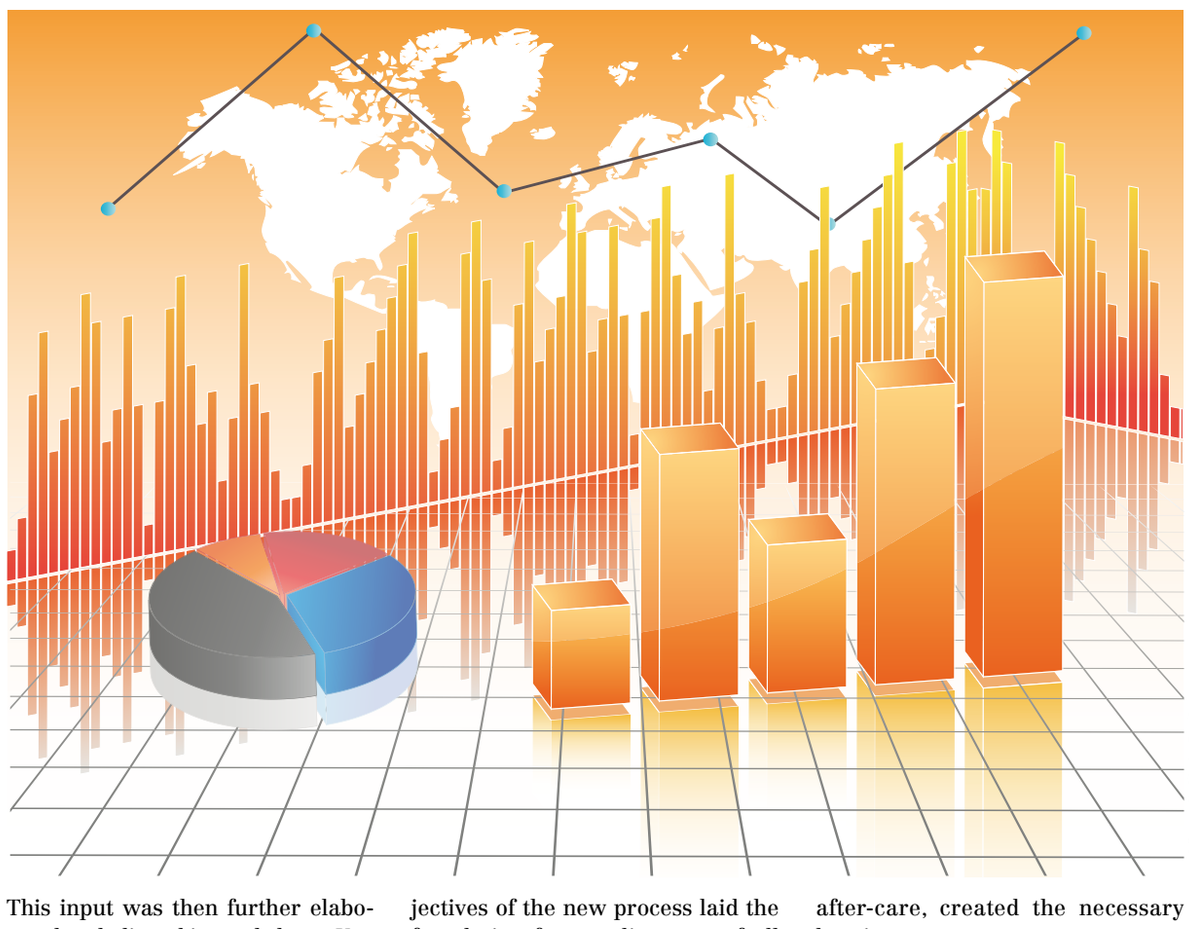
Improving the Capability to Sell

SABIC Applies an Integrated Sales Process in order to Drive and Manage Growth in Times of Uncertainty

From Prospect to Order – With headquarters in Riyadh, Saudi Arabia, SABIC is one of the world's top six petrochemical companies and the largest non-oil company in the Middle East. In addition to its domestic world-scale production sites in Saudi Arabia, the company operates three facilities in the Netherlands, Germany and the UK. In Europe, SABIC wanted to enhance its ability to drive growth proactively, with the aim of expanding its customer base, extending into new regions of Europe, and increasing its sales with existing customers. Camelot helped SABIC to design a comprehensive sales process that integrates the company's go-to-market approach and planning with follow-up sales activities through a new "Prospect-To-Order" (PTO) process. CHEManager Europe asked Dieter Hollmann, director of SABIC Europe's Polypropylene business unit, and Dr. Sven Mandewirth, head of industry segment chemicals & petrochemicals at Camelot Management Consultants, about the challenges of implementing this new PTO process and what it has achieved.



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CHEManager Europe: Before you started the PTO project, what did you diagnose as the most severe challenges for SABIC's sales process?

D. Hollmann: To translate our ambitious business plans, including growth, segment and area expansion, into actionable sales development projects that are transparent to all disciplines involved. Transparency means that all functions supporting sales, like logistics, technical marketing, financial services and legal, can take actions in a proactive way, so that new sales development can hand over to regular sales execution uninterruptedly in line with set targets. Business management should be able to monitor progress at a high level and initiate corrective actions when needed.

S. Mandewirth: Sales by nature is a complex topic, especially when different interest groups are involved. Complexity is further driven by the increasing numbers of stock-keeping units – short SKUs -, sales markets and country-specific regulations. The need to enhance internal cooperation in a structured and pre-defined way became necessary as the company grew with exceptional speed.

What approach did you choose to address these problems?

D. Hollmann: Create understanding of SABIC's business strategy and the challenges for the organization, define the required planning and sales development steps with the help of experienced colleagues, and translate the outcome into a system-based tool.

S. Mandewirth: Starting with the sales processes, we first assessed whether the current order-to-cash or OTC process was still sufficient and robust enough to fit the future requirements of such a fast-growing company. This required a holistic view that extended from the company's strategy to the choice of the best IT tools. Our findings showed that the OTC process was sufficient to meet SABIC's future requirements; however, the upstream process – PTO – needed to be reworked.

The PTO process implies that you have to align the capability to sell with the capability to deliver – or, in other words, to link strategic business planning with operational demand chain planning. What tools did you use to do this and which departments at SABIC were involved in developing the process?

D. Hollmann: A highly integrated Sales & Operation Planning process was already in place, ensuring an excellent service level to our customers. Key was to connect the evolving business and sales plans with supply chain management in a consistent way, so that new sales areas, transportation modalities and quality requirements can be anticipated as early as possible in logistics planning, contracting and execution. This is crucial for finding and establishing sustainable transport solutions in the challenging European environment.

> *Sales by nature is a complex topic, especially when different interest groups are involved.*
>
> Dr. Sven Mandewirth, Camelot Management Consultants

S. Mandewirth: First of all, it was necessary to identify all the stakeholders involved in the related processes and to conduct one-to-one interviews. This input was then further elaborated and aligned in workshops. Key for the development of an integrated process was to ensure that all the stakeholders were constantly involved in the information loops.

Which departments at SABIC were involved in developing the process and how did you manage to mobilize them?

D. Hollmann: Business management, sales leaders and representatives from our sales offices, supply chain management, financial service, technical marketing and legal were all involved in the project. It was clear to leadership that the old way of working, relying on a broad variation of individually-created "excel plans" to share information and monitor progress, would not provide the transparency, efficiency and results needed to take our sales development to the next level. Demonstrated commitment of senior management and dedicated change management helped to mobilize teams and free-up resources.

S. Mandewirth: By making the inter-relation of the process steps in the different departments transparent, all functional leaders realized how crucial their input would be to achieving an integrated solution. Therefore, they ensured they were properly represented in the project team.

What were key factors or key requirements for the successful design of the new PTO process?

D. Hollmann: Ambitious multi-disciplinary design teams, high-level management support including target setting, a user-friendly SAP-interface with excellent accessibility and performance that was fully integrated in the overall budget and planning process, and a carefully planned roll-out and training plan.

S. Mandewirth: A clear message from the management concerning the objectives of the new process laid the foundation for an alignment of all stakeholders involved. The collaborative development of the overall processes, the required roles and responsibilities, and the impact on the organization led to a common understanding.

This kind of project clearly requires strong business transformation management. How did you manage to achieve the necessary buy-in to the required changes from the stakeholders?

> *Change management was key in acquiring broad acceptance and effective use of the tool.*
>
> Dieter Hollmann, SABIC Europe

D. Hollmann: Change management was key in acquiring broad acceptance and effective use of the tool. The different stakeholder groups were informed and actively involved from the beginning in order to optimally integrate their key requirements and thus create acceptance. Continuous and consistent communication on the objectives and progress of the project, as well as a carefully defined roll-out plan with a pilot-phase, training and after-care, created the necessary buy-in.

S. Mandewirth: The broad support of management allowed us to carry out the necessary change management approach. Representatives of all functions were allowed to review the prototype and pilot solutions and to experience the future solution. The obvious and tangible improvements are the engine of the change process.

Can you describe the results of the project, and the key features and benefits of the new PTO process?

D. Hollmann: We have achieved sales growth with the same number of people, which means that our organizational efficiency has increased. The progress of sales development is clearly visible and is a major driver in meeting our business plan targets. Customer service and satisfaction is at a high level, as shown in regular performance monitoring and customer feedback (NPS score). Finally, lots of new customers are enjoying a close relationship with SABIC.

S. Mandewirth: The new PTO process closes the gap between business and sales planning on the one hand and supply chain planning on the other hand. A clearly designed and continuous data flow links market-oriented steering of sales activities with improved planning for logistics and transportation efforts. Apart from reducing planning efforts and increasing accuracy, this solution will drive and manage profitable growth and competitive advantage.

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Indian Company to Buy ExxonMobil's BOPP Film Business

In an announcement to the New Delhi stock exchange, India's Jindal Poly Films said it is buying ExxonMobil Chemical's global biaxially oriented PP films business, without disclosing terms. The U.S. oil and petrochemicals giant is one of the leading producers of BOPP film both in Europe and North America, with production facilities in Belgium, Italy and the Netherlands as well as the US states of Oklahoma and Georgia.

Jindal is a part of the multi-industry conglomerate BC Jindal Group and claims to have the world's largest single production site for BOPP and biaxially oriented PET films at Nasik, India. The company with sales of more than $450 million its annual combined capacity for the two film types at 741 million lbs. (about 35,000 metric tons). ■

Lanxess Sets 20% Target for Women in Senior Management Positions

Lanxess has announced what it says is a medium-term global target to lift the proportion of women and middle- and senior management to 20% by 2020. The plans are in line with German government guidelines encouraging companies listed in the DAX blue-chip stock index to voluntarily increase the number of women in top positions. This is in lieu of mandating a quota, as has been urged by many women's groups.

Currently, women in such positions account for 15% of the workforce at Lanxess, which moved up into the DAX in October. The company said it has also developed a number of global projects to promote the advancement of women and increase diversity within the ranks of its employees, including a senior trainee program for women returning to work after a child-rearing phase and a care leave concept for employees caring for sick family members. ■

Indian Firms Clinch Deals in Europe and the U.S.

Indian companies are becoming increasingly active in the international mergers and acquisitions (M&A) markets. In late October, the country's Rain Commodities acquired Germany-based Rütgers from Belgian private equity company Triton for an enterprise value of €702 million. The Indian company is a leading producer of calcined petroleum coke and a major supplier of the aluminum industry, while Rütgers markets its coal tar chemicals to a wide range of industries in Europe, Russia, the Americas and the Middle East.

In early November, Indian lubricants manufacturer Gulf Oil, part of the diversified Hinduja group, said it had acquired U.S.-based specialty chemicals producer Houghton International for $1.05 billion from an undisclosed private equity firm. Gulf said the deal would complement its own range of automotive lubricants. Houghton, which sells lubricants and industrial explosives in India and offshore, has 12 production facilities. For fiscal 2012 (30 September) it reported an operating profit of $132 million on sales of $858 million. ■

BASF Reorganizes Portfolio

BASF is honing its portfolio with effect from 1 January 2013 to strengthen its position as a leader in important markets and at the same time leverage its technology advantage. Within the broad portfolio, "different business models require different competencies to be successful," said CEO Kurt Bock, adding that the bundling of product groups with the same business model will help management to focus on meeting customers' needs as well as achieving operational excellence.

As part of the reorganization, the number of reporting segments will be cut from 6 to 5 and the number of divisions from 15 to 14. The Plastics segment will be dissolved and the products of its two divisions integrated into other segments and grouped according to their position at the upstream or downstream ends. The new Chemicals segment will include, alongside Intermediates and Petrochemicals, a new Monomers division headed by Stefano Piggozi. This will incorporate many of BASF's high-volume monomers and basic polymers businesses, including polyurethane feedstocks MDI and TDI, in addition to PA 6 and PA 6.6 and their starting materials caprolactam and adipic acid. Within Chemicals, the Intermediates division will focus primarily on the C1 value chain, while Petrochemicals will be expanded to include polyurethane feedstock propylene oxide. The new Performance Materials division, to be headed by Raimar Jahn, will be part of the new Functional Materials and Solutions segment. It will incorporate Performance Polymers and Polyurethanes divisions of the former Plastics segment and include polyurethane systems, engineering plastics, thermoplastic polyurethanes, biopolymers, functional foams, expandable polystyrene materials Styropor and Neopor as well as epoxy systems. BASF's other segments, Performance Products, Agricultural Solutions and Oil & Gas will be unaffected by the realignment. ■

Symrise Attracted by Growth in Cosmetics Ingredients

German fragrances and flavours manufacturer Symrise plans to leverage its links to global consumer goods producers to gain a bigger share of the market for skin and hair products ingredients, its chief executive Heinz-Jürgen Bertram said in an interview with the news agency Reuters. At the same time, he said, the company's flavors business aims to capitalize on its experience in developing snacks and drinks for global food companies to diversify into nutritional supplements.

Earlier this year, Symrise acquired a 12% stake in Swedish company Probi, a manufacturer of probiotic ingredients for yogurt and a minority stake in Swedish food ingredient developer Indevex Biotech. ■

DSM to Sell Plastomers, LLDPE, Business to Borealis

DSM has said it will sell its half of DEXPlastomers, a 50:50 joint venture with the ExxonMobil group, to Borealis, along with its Compact Solution Technology. No terms have been released for the deal, due to close in Q1 2013, following regulatory approval. DEXPlastomers, which has 95 employees and projected sales of about €180 million in 2012, uses the proprietary DSM technology to produce C8 plastomers as well as undisclosed volumes of LLDPE. ■

Lonza to Slash 500 Jobs, Mainly in Switzerland

Swiss chemical producer Lonza has announced plans to slash 500 jobs across the company, including 400 of the 2,700 positions at its Visp plant in canton Valais. The staff reductions, which are to be achieved mainly through internal transfers, attrition and early retirement schemes, were termed unacceptable by the cantonal government, which has called an urgent meeting with the company's management. More than 60% of the town's 7,000 inhabitants work for Lonza.

The company meanwhile has begun negotiations with Swiss unions Syna and Unia about a social plan. During the consultation phase, which will last until the end of 2012, employees will have the opportunity to make proposals regarding the extent and the impact of the staff reductions, Lonza said.

The Visp site, nucleus of the chemical group, has been exposed to competitive pressure from low-cost manufacturers, high energy costs and the strength of the Swiss currency. Last year, management launched an efficiency improvement scheme – of which the headcount reduction is part – aiming at lowering expenses by some SFr 100 million by the end of 2015. Visp employees agreed to work two additional hours per week at the same pay.

The additional 100 worldwide jobs will be eliminated over the next two years, with a third to be made at Basel headquarters. Simultaneously with the jobs announcement, the company said its overall business is on track to meet its 2012 target of lifting earnings by 10–15% against 2011. It did not release third-quarter figures. ■

Improving Energy Efficiency

Cefic Looks into Europe's Energy and Climate Future

Energy for Tomorrow – New data confirm the downward trend in the energy and greenhouse gas intensity of the European chemical industry. Efficiency gains are essential, but Europe's industry needs other trump cards in the face of rising energy costs and fierce global competition. To explore the chemical industry's role as Europe progresses towards a low-carbon future, Cefic has started a project to develop a long-term energy and climate roadmap for the sector.

Recent data released from show that the European chemical industry now uses 53% less energy and generates 71% less greenhouse gas emissions per unit of production than twenty years ago. This evolution demonstrates the sector's continued efforts to improve its energy efficiency – an important part of how the sector remains competitive and sustainable in an increasingly globalized market.

William Garcia, executive director for Cefic's Energy, commented "A chemical plant is highly energy-intensive. In base chemicals, energy and feedstock can exceed 50% of total production cost. How we source and use energy really makes a difference."

The chemical industry can also make a difference through the advanced energy-saving materials it provides to others. For example, stronger materials make windmill blades more efficient, and insulation materials save energy at consumers' homes.

Investing in Europe

Achieving these positive impacts across the EU economy requires a strong manufacturing base in Europe. Investments on energy savings pay off, but they compete against many other investment options. How can Europe make sure these investments are attractive and happen on home turf?


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William Garcia said "For this to happen, the industry needs stability, predictability and visibility on energy and climate policies – and an economic and business context that favors investments in manufacturing. The EU's energy challenges must be placed within the global context for energy and climate change. Our industry seeks a level playing field because we compete on a global market. For us, access to a secure supply of competitively priced sustainable energy is a must."

Long-term Roadmap

To dig deeper into the role of the chemical industry in addressing Europe's energy and climate challenges, Cefic has launched a project to develop a long-term energy and climate roadmap for the European chemical industry.

The roadmap will assess the opportunities, risks and costs for the sector to further reduce emissions and improve energy efficiency in the post-2020 period. Based on an analysis of several scenarios, the roadmap will include a set of evidence-based policy recommendations. Cefic aims to complete the roadmap by March 2013.

In preparing the roadmap, Cefic has signed on energy consultancy Ecofys. Maarten Neelis, project director at Ecofys, comments "The roadmap will look at three key elements: policy, markets, and technology and innovation. It will provide an overview from the chemical industry to European policymakers that will be scenario-driven and evidence-based."

William Garcia concluded "Europe's energy and climate strategy and policies for the post-2020 period will be shaped in the coming years. The roadmap will enable our industry to answer the call from the European Commission and bring new bottom-up input into discussions on European energy, climate and industrial policy beyond 2020."

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Clariant's Q3 Profits Stable Despite Weakening Markets

Clariant saw its earnings before taxes, interest, depreciation and amortization (EBITDA) pre-exceptionals shrink by 7% to CHF 201 million in Q3, while sales revenue edged ahead 3% to CHF 1.9 billion.

CEO Dr. Harriolf Kottmann said profitability in the group's core business was stable despite "pronounced economic weakness in Europe." Good progress was made in portfolio management and the integration of Süd-Chemie, acquired in 2011. Despite short-term economic challenges, Clariant's mid-tem guidance until 2015 "remains intact."

Volumes in Q3 sank by 5% year-on-year. While all units took blows, Catalysis & Energy, Functional Materials, Industrial & Consumer Specialties and Masterbatches "performed solidly" and are on track to achieve full-year targets. Pronounced weakness in electronics, coatings and, increasingly, in the automotive industry "severely affected" the Additives and Pigments unit. Leather Services, Textile Chemicals and Paper Specialties posted double-digit growth in local currencies.

The earnings contribution from Clariant's new capacities for battery materials and flame retardants was lower than expected. "Under the current economic conditions, a slower market adoption of these new innovative products and technologies has been observed," the Swiss specialty chemicals group said. ■

Arkema's Q3 Performance Stable Despite Volatile Environment

French chemical producer Arkema is satisfied with its Q3 performance, despite earnings virtually flat at the 2011 quarterly level and sales only 1.2% higher. In view of the "less favorable and more volatile economic environment," CEO Thierry Le Hénaff said stable EBITDA of €266 million and sales of €1.6 billion, as well as an earnings margin close to 17% demonstrated the strength of the company's performance. For the full year, the CEO confirmed the company's EBITDA target of "close to €1 billion."

The 2.8% net contribution of Arkema's acquisitions and divestments in Q3 offset the 2.4% decrease in volumes from slowing business with the automotive, construction sectors and photovoltaics sectors. Selling prices declined 4.5%, due mainly to pressure on acrylic acid and fluorogases. Currency translation was a positive 5% due to a stronger dollar. The Chemicals business remained "very solid" at the 2011 quarterly level, while Performance Products delivered record EBITDA (of €107 million) for the third consecutive quarter.

In Q4, Le Hénaff said Arkema will continue to give priority to internal dynamics, strengthening its positions in specialty niches and international growth markets while working on controlling costs and capital spending. ■

Solvay Lifts Q3 Earnings 4% on Record Specialty Polymer Showing

An outstanding performance by its consumer chemicals and specialty plastics business led Belgium's Solvay to increase its third-quarter recurring earnings before interest, tax, depreciation and amortization (REBITDA) by 4% to €554 million, despite minimal growth of 1% in net sales to €3.29 billion. Looking ahead, CEO Jean-Pierre Clamadieu said his company hopes to achieve a full-year REBITDA result close to the strong 2011 pro forma performance of the Solvay and Rhodia operations.

Boosted by a 24% earnings increase in the Specialty Plastics unit to €153 million, Solvay's Plastics segment lifted quarterly REBITDA by 8% to €168 million. The Chemicals segment improved REBITDA by 21% to €145 million. The former Rhodia businesses improved REBITDA by 4% to €290 million, driven by growth in consumer chemicals. REBITDA of Rhodia's polyamide business, by contrast, decreased by 69% to €16 million.

Bitte mit Foto ClamadiauJean-Pierre-Solvay_CMI0612.jpg und BU „Jean-Pierre Clamadieu, CEO, Solvay" ■

Chemicals M&A Review

Chemical Companies are Continuing to Seek Growth Opportunities for their Businesses

Mergers & Acquisitions – Almost 35% of chemicals M&A transactions currently involve Asia or the Middle East. With this forecast to increase, a wider group of buyers are evaluating a broader range of chemical sub-sectors for potential acquisitions. Consequently, knowing the dynamics and specific market developments across all sub-sectors has become more important.

As part of this sub-sector theme, the Valence Group has analyzed chemical segments from the standpoint of stock price movements in the Valence Indices, via the analysis of more than 230 chemical product/application segments, and finally from the perspective of regional M&A transactions.

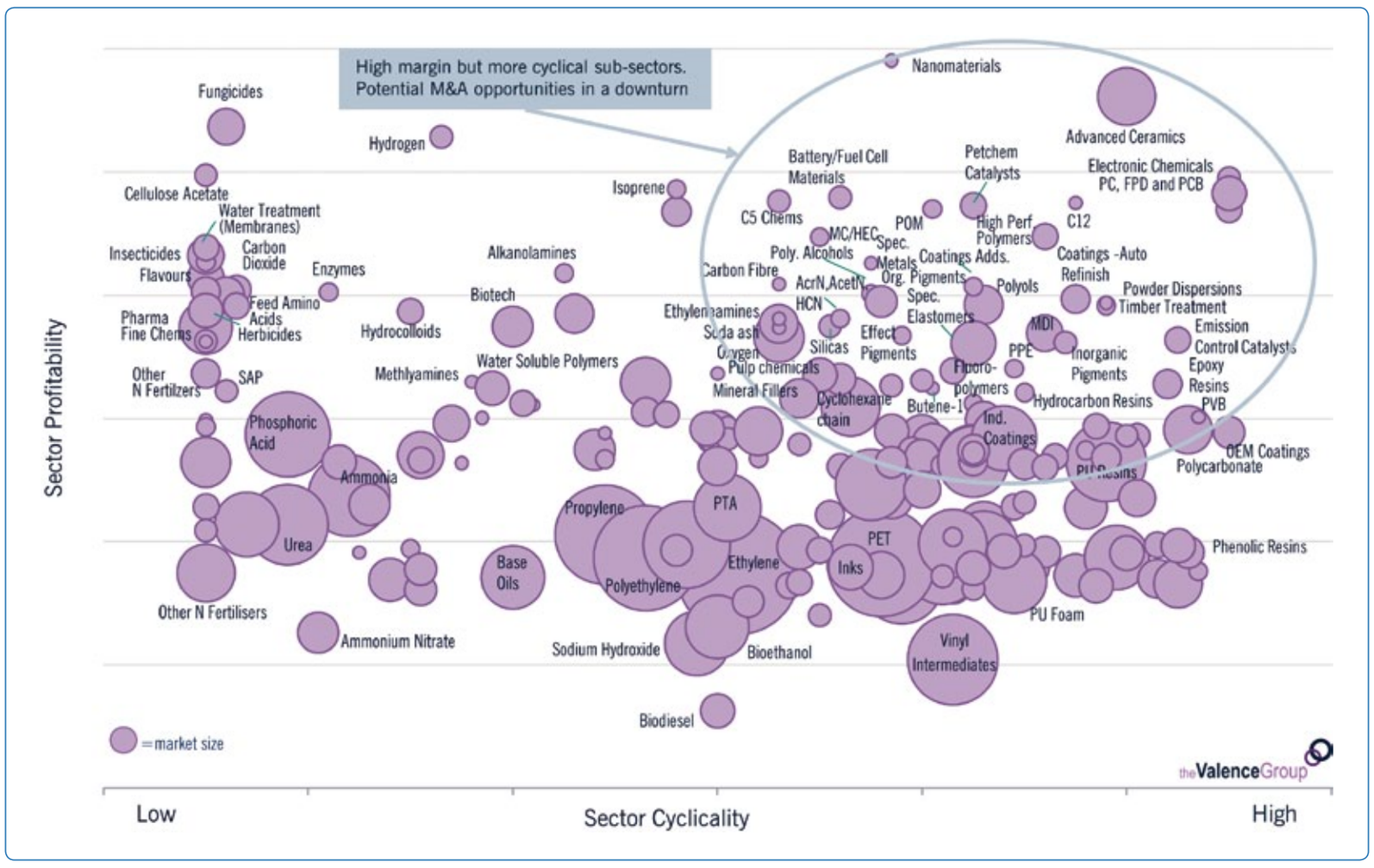

Fig. 1: Profitability and Cyclicality Mapping of 230 Chemical Products/Applications (not all sectors labelled)

Valence Indices

The Valence Indices comprise 33 chemical sub-sector stock price indices that were launched earlier this year. These indices show remarkable sensitivity to the end markets they serve or the broader economy. For example, as noted in our July Newsletter, the Basic Chemical & Commodity Polymers index is a highly sensitive and lead indicator of overall economic activity.

The indices' performance over the last 12 months is shown in Figure 1. It shows the huge variation in sub-sector stock price movements, with some being more than double the S&P 500 and well above the aggregate Valence Global Chemical Index (VGCI). In particular, the Paints & Coatings index has risen by ca. 35% in the last year and this is mirrored by other related indices such as Coatings Materials & Additives, Adhesives & Sealants and also Additives. All these sub-sectors have been driven higher by a thawing of the US housing sector. Although these indices are global, with companies from all regions represented, the US constituents are benefitting most from the increasing activity in the US commercial and residential housing sector. Companies such as Sherwin-Williams, PPG and Valspar have all seen share prices rise by up to 100% in the last year, and this has pulled the index higher, despite lower housing sector activity in other geographic regions.

Surprisingly, sub-sectors which are more closely linked to the general economy have not fared as well. Elastomers & Rubber, Electronic Materials and Basic Chemicals & Commodity Polymers have all underperformed the VGCI and S&P 500 in the last 12 months as the global economy has slowed. These sub-sectors, being at the start of the supply chain for packaging, auto, electronics and consumer goods, are highly sensitive to economic activity and often lead indicators of global (or regional) macroeconomic factors. Although these sub-sectors are showing slow economic growth, there has been an uptick in prices recently, indicating that 2012 Q4 may be stronger than many believe. The sub-sector indices show that there is a decoupling of US housing, which is growing (albeit from a very low base) relative to the broader economy, which remains subdued.

Paints & Coatings have also been aided by lower or stagnant pigment raw material pricing. For example, titanium dioxide pricing has eased recently and, although still at healthy levels, is no longer rising. As would be expected, the Pigments sub-sector index has therefore underperformed, having dropped almost 15% in the last 12 months and nearly 30% in the last six months alone.

Worthy of note has also been the recent rise in the Agrochemicals index as the share prices of larger companies such as Syngenta, Monsanto and Nufarm have risen by as much as 60% in the last year. Much of this rise has been in 2012. The index is potentially set to go higher as the industry fundamentals of increasing crop prices and continued high demand could combine with more sector M&A activity, as demonstrated by the recent transactions by Dow Chemical (Cal/West Seeds), BASF (Becker Underwood) and Syngenta (Devgen and Pasteuria Bioscience). With Asian buyers and companies increasingly focused on seed and biopesticide-related acquisitions and partnerships, the sector dynamics will likely propel the index further upwards. Even the moribund Pharma/Agrochemical Intermediates index appears to have been dragged up by the Agrochemicals index.

Table 1: Valence Indices: 1-Year Performance

Chemical Industry - M&A Segment Mapping

Chemical companies are continuing to seek growth opportunities for their businesses either through related "bolt-on" opportunities or increasingly by the creation of a "new leg". In addition, Asian buyers and traditional private equity firms are also actively seeking investments in a broader range of chemical sectors outside of their traditional focus. In both cases, some level of screening of the vast range of chemical products or functional segments is a vital first step to define target chemical sectors.

To support this M&A screening process, more than 230 chemical product/application sectors have been analyzed in order to generate a map of the chemical industry from the standpoint of business characteristics and overall attractiveness. Each sector is measured by financial performance, market dynamics, competitive intensity, supply/demand outlook, cyclicality and technology barriers to give a balanced and detailed assessment of the chemical business environment. This knowledge base can then be examined from various perspectives to show which sectors meet specific acquisition criteria.

As an example of this analysis, Figure 1 shows the mapping of chemical products/applications by level of historical cyclicality and profitability. Cyclicality is defined primarily by the blend of end markets served, and profitability is calculated by averaging margins over an economic cycle. Highlighted in Figure 1 is the area of high profitability and cyclicality, where under current slower growth conditions, margins might be expected to be depressed, thus creating opportunities for investment and acquisition. Surprisingly, up to 60-70 sectors fit these criteria, including product areas such as electronic chemicals, advanced ceramics and even some catalysts. Conversely, low cyclicality product/application areas could also be targeted if less earnings volatility was preferred. Areas as diverse as hydrocolloids, base oils, superabsorbent polymers and cellulose acetate would fall into this latter category.

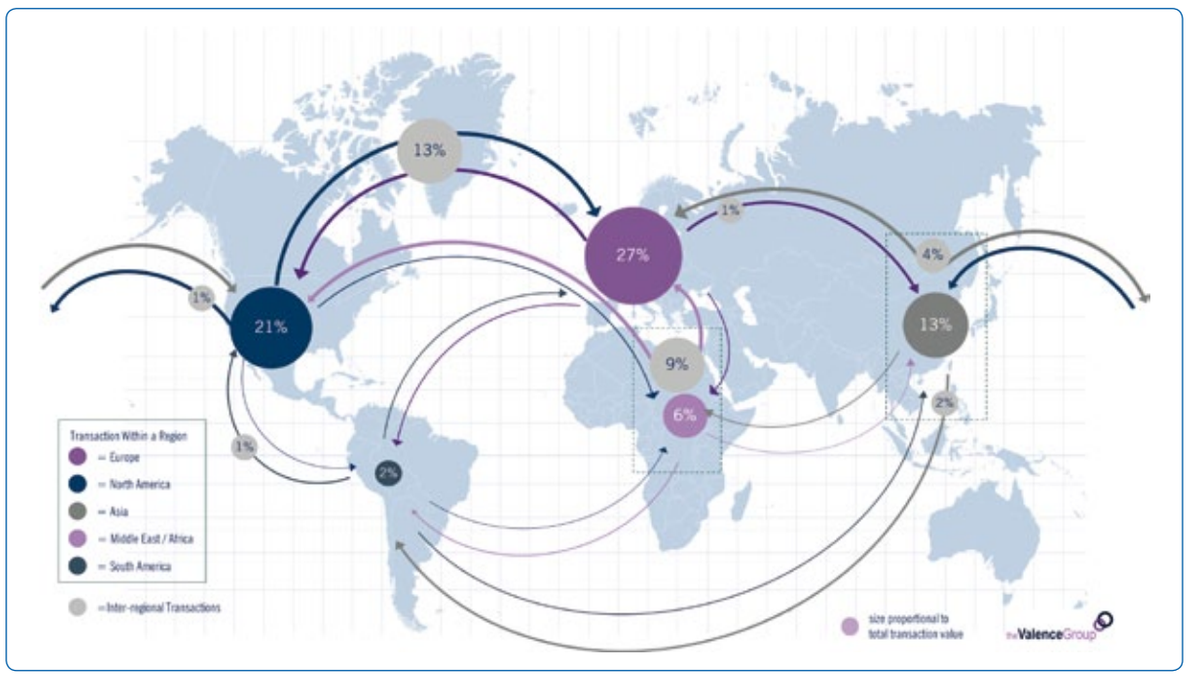

Fig. 2: Global Chemicals M&A Transactions by Acquirer Origin (2007-2011)

Sector Spotlight - Natural-Based Chemicals

A growing and active M&A sector is related to chemicals derived from natural feedstocks, including vegetable oils such as palm, coconut, soy and castor oils. While food still remains the dominant end use, chemicals should contribute to above average growth rates for these materials.

Major drivers for this growth include increasing customer pull for products based on renewable materials, rising oil prices, and specific chemical functionality, often provided only by natural feedstocks. Applications such as bio-polymers, oil field chemicals, coatings, adhesives and lubricants are encouraging the use of natural feedstocks and derivatives beyond their traditional use in soaps and detergents.

This growth is expected to spur further M&A activity. For example, M&A is being used by specialty chemical and polymer producers seeking to broaden their synthetic-based product lines with natural analogs. Lubrizol's acquisition of Merquinsa, a Spanish producer of synthetic and bio-based polyurethanes, and Arkema's acquisition of Chinese castor-oil producer Casda/HiPro Polymers fall into this category. Indeed, many major nylon producers have introduced castor-oil based long-chain nylons into their overall portfolio because of their unique properties and sustainability appeal.

With multiple and varied underpinning forces driving the need to expand across natural-based chemicals, global M&A activity across the sector should fuel significant growth.

Chemicals M&A Analysis

Overall value of M&A activity this year is expected to be comparable with 2010 but down on the high levels seen in 2011. Clearly companies remain committed to M&A and large deals have been completed in the last few months. Furthermore, some of the larger deal activity recently has been led by financial sponsors, specifically DuPont Performance Coatings (Carlyle) and Cytec Coating Resins (Advent). Chemical companies, on the other hand, have predominantly been sellers of the larger businesses although there have been some notable exceptions, such as Cabot's acquisition of Norit, Ecolab's acquisition of Champion Technologies and the recent agrochemical transactions referred to earlier.

Despite continued financial uncertainty in Europe and volatile stock markets, the vast majority of chemical companies have maintained relatively high levels of profitability. This has resulted in strong balance sheets with low debt levels and sufficient financial strength to fund large acquisitions. However, with the demand side showing signs of sluggishness, companies are evaluating acquisitions more carefully, although still keen to invest across the spectrum, especially in non-transformational transactions.

In particular, the increasing M&A activity by Asian and Middle Eastern companies will be a further driver for chemical acquisitions. Indeed, as shown in Figure 2, over the last five years ca.35% of all chemicals M&A originated in/from Asia and the Middle East, and indeed 15% of all chemical acquisitions were outbound M&A from these regions.

This is a huge increase from 10 years ago when activity in these regions was nascent. With ambitious growth plans in China, strengthening of the Yen and continuing high oil prices, M&A involving the Middle East and Asia is likely to reach 50% of all chemicals M&A within the next 5-10 years.

Of course, Europe and the US still account for more than 60% of all transactions and an even higher proportion when viewed by volume. While Middle Eastern acquisitions in established markets have tended to be larger deals driven by the need to build scale and presence (e.g. IPIC or SABIC acquisitions), European and US transactions are more varied, tending to be linked to realigning portfolios or business positions. Asian activity shows more of a mix but with considerable outbound activity. These partially reinforcing reasons will maintain the impetus for chemicals M&A.

The rise of low cost shale gas in the US will also be a strong pull for investment from all regions. The increased competitiveness of the US chemical industry from low cost energy, advantaged feedstocks and improved manufacturing productivity, has become perhaps the most important structural change in the last 10 years. This is already fueling M&A both in the US and from abroad (e.g. TPC proposed acquisition by Innospec, Indorama's acquisition of Old World Industries and the PPG chloralkali/Georgia Gulf merger). As more shale gas reserves are brought on stream, both investment and M&A activity should further increase in the US.

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Kolb Expands Production in Moerdijk

A fourth reactor for the production of alkoxylates has been commissioned at chemical company Kolb's Dutch site in Moerdijk. As a result, Kolb Moerdijk is one of the biggest sites producing alkoxylates and nonionic surfactants in Europe. In addition, four new storage tanks have been constructed. This will enable a significant increase in the supply of fatty alcohols into Europe from its Malaysia-based parent company KLK.

The expansion of production in Moerdijk that has created 10 new jobs, increasing the total number of employees at the site to 80, is one of Kolb's biggest projects in recent years. In 2008, the capacity was expanded with a third reactor. ■

New Alliance of DKSH and Evonik

The Performance Materials business unit of Swiss distributor DKSH has formed a new alliance with chemical producer Evonik to distribute the latter's Tego products in Indonesia and Thailand. DKSH also will handle the German group's coatings and adhesives resins production portfolio in Indonesia and Vietnam. The relationship between DKSH and Evonik dates back to the late 1990s. ■

Bayer and Reckitt Benckiser to Fight over Schiff Nutrition

In a move to bolster its consumer healthcare portfolio, Bayer had already agreed to pay $1.2 billion for US vitamin maker Schiff Nutrition, but Reckitt Benckiser has trumped Bayer's deal with a higher offer of $1.4 billion for the U.S. nutrition specialist. The bid of the British consumer products group opens up a potential bidding war for Schiff, whose portfolio of vitamins and nutritional supplements is appealing to companies seeking stable sources of growth. Reckitt said it would offer $42 for each Schiff share, a 23.5% premium over the $34 per share that Bayer, Germany's biggest drugmaker, agreed to pay.

Reckitt's offer values Schiff at about 3.6 times its forecast 2013 annual sales, which is around the top end of deal multiples in the non-prescription drugs industry. But it would get Reckitt into the $30 billion global market for vitamins and supplements for the first time, complementing its existing strength in other areas of consumer health.

Even Bayer's offer, valuing the nutrition specialist at about 3.1 times its forecast annual sales of $259 million, was eyed critically by analysts. However, Bayer's CFO Werner Baumann said that figures published for the company do not include non-consolidated assets that would boost its EBITDA margin.


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In announcing the then-believed takeover, CEO Dr. Marijn Dekkers said Bayer is committed to bolt-on acquisitions to augment its organic growth. He described Schiff as "an excellent strategic fit," noting that it "significantly enhances" the group's presence in the U.S., the world's largest consumer of nutritional products. Bayer HealthCare CEO Jörg Reinhardt said his company wants to utilize its extensive marketing, sales and distribution expertise to further develop the strong brands acquired while leveraging Schiff's new technology platforms.

For Reckitt the deal would make good strategic sense, too. "When this offer was made by Bayer - which was a bilateral agreement and not a public auction process - we knew that this was an area we would be very interested in," Reckitt CEO Rakesh Kapoor told Reuters. "That's why we started to work and look at it once again to see whether this would be attractive to our shareholders. Based on our due diligence, we believe it is and that's why we've come up with a strong offer", Kapoor added. Reckitt said it expected the deal to boost earnings immediately on an adjusted basis.

While Bayer may bide its time before reacting to Reckitt's move, its management will be under pressure to salvage a deal that was well received by investors. "A bidding war cannot be ruled out. Bayer probably has to match the Reckitt offer. This would result in an acquisition price which might get unattractive for Bayer," DZ Bank analyst Peter Spengler said. Under the terms of its deal with Bayer, Schiff is allowed to entertain superior offers made in writing before Nov. 28. If it decides to go with another offer, it would have to pay a relatively modest $22 million breakup fee to Bayer.

With Schiff now in play, analysts said the situation could also attract interest from other parties - in particular Johnson & Johnson, the only other leading consumer health player lacking a presence in vitamins and supplements.

For Bayer, the planned acquisition of Schiff represents part of a strategy to expand into steadier, albeit less profitable, areas as a counterweight to prescription medicines, where there are high risks of clinical trial failures and patent expiries. Reckitt, meanwhile, is keen to build up its healthcare business, which already includes painkillers, anti-acne creams and condoms. It also makes a range of household and personal care products.

Schiff Nutrition employs approximately 400 people with its headquarters and manufacturing site based in Salt Lake City, Utah, as well as offices in Emeryville, California. ■

German Chemical Players BASF, Bayer, Evonik and Lanxess Still Strong in Q3 Despite Dark Clouds

Storm clouds are gathering on the horizon, as the somewhat weaker third-quarter results show, but German multinational chemical players BASF, Bayer, Evonik and Lanxess still expect to meet earnings forecasts for 2012, which in most cases foresee further improvement against the record 2011 results. Not least the comparison of Q4 2012 with the poor 2011 quarter will pad the bottom line.

BASF business holds up in Q3

BASF, the world's largest chemical company, "maintained its good performance" in the third quarter, CEO Dr. Kurt Bock told journalists in a telephone conference. Following a "solid first half," he said sales revenue increased by almost 7% to €19 billion, with earnings before interest taxes and amortization (EBITDA) up by more than 8% to €2.8 billion. Thanks especially to the resumption of the Oil & Gas division's exploration in Libya, volume sales rose 7%.While selling prices fell by 4%, more favorable currency translations padded the balance by 6%.

For the fourth quarter, Bock the Ludwigshafen group does not expect an upturn in the global economy. However, management still intends to top the 2011 record sales levels and operating income before special items. While visibility for the next few months is limited, due especially to the euro crisis and stagnation in China, Bock said opportunities could arise from stronger growth in the global economy and customer industries.

Bayer confident of meeting 2012 targets

In Leverkusen, Bayer CEO Dr. Marijn Dekkers said he is also confident of meeting the forecast year-on-year earnings growth of 4-5% in 2012, adjusted for currency and portfolio effects. This is despite a "difficult" third quarter, in which EBITDA before special items rose by only 2.2% to €1.84 billion on the back of sales growth of 5.5% to €9.7 billion. Bayer was pleased by the upward trend in its life sciences business, despite high litigation costs for oral contraceptives.

EBITDA of the HealthCare subgroup rose 5.8% to €1.3 billion, while the adjusted EBITDA margin fell from 29.2% to 27.5%. At CropScience, EBITDA before special items rose 14.5% to €189 million, but the margin deteriorated from 12% to 11.5%. Despite higher volumes and turnover, adjusted EBITDA of MaterialScience sank by 4.3% to €333 million. The margin receded by 1.5% to 11.1%, as high raw material costs could not be passed on in full.

Evonik "doing well" despite slowdown

"We are still doing well in difficult conditions," Evonik CEO Dr. Klaus Engel said in presenting the Marl group's Q3 results. In the three months from July to September, sales declined 8% to €10.4 billion but were stable when adjusted for the divestment of the carbon black business to private equity investors at the end of July 2011. EBITDA slipped back 2% to €731 million, due in part to the deconsolidation. The adjusted EBITDA margin improved "slightly" to 20.2%. For 2012 Engel sees operating results "probably" in line with the "excellent" 2011 level.

Adjusted EBITDA of the consumer, health and nutrition business rose by 2% to €822 million, while its EBITDA margin sank 0.7% to 26.7%. In the inorganic materials and coatings & additives activities, now called Resource Efficiency, adjusted EBITDA plunged by 17% to €540 million. Specialty Materials, including performance polymers and advanced intermediates, saw adjusted EBITDA fall 9% to €671 million and its margin slip 1.7% to €739 million. Engel said the shortfall caused by a fire in a plant for polyamide feedstock CDT was largely offset by insurance reimbursements.

Lanxess still optimistic after Q3 setback

At Lanxess, Q3 was strewn with stumbling blocks. Overall sales fell by 7.6% to €2.2 billion and EBITDA pre-exceptionals by 18% to €255 million, due mostly to what CEO Dr. Axel Heitmann said was "massive destocking and increasing nervousness" by customers in the Performance Polymers segment, which has close ties to the automotive industry. EBITDA of the segment, by far the company's largest, fell by 28.5% to €152 million. By contrast, EBITDA of the small Advanced Intermediates business rose by 10.3% to €75 million. In Performance Chemicals, EBITDA was flat at €75 million.

The Leverkusen-based company still expects to partly achieve its earnings goals for 2012, Heitmann said. Here, the comparison of Q4 2012 with the dismal quarter of 2011 will have a bolstering effect. Less optimistic than a few months ago, however, Heitmann said management now expects growth to be at the "lower end" of 5-10% increase in EBITDA pre-exceptionals forecast earlier. ■

Call to Action

Vision 2030 Outlines Challenges and Highlights Imperatives for the European Chemical Industry

Strategy – The European chemical industry is facing major challenges as value chains increasingly move eastward, drawn by economic growth and market opportunities in Asia. A new, more competitive environment is taking shape, giving rise to state-controlled players and emerging chemical giants. Fragile economic conditions require managing volatility on a playing field where trade flows gradually change direction. Understanding what these challenges mean, and more importantly, identifying the right strategic options to thrive in this new competitive environment are at the top of every chemical executive's agenda.

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Since the mid-1980s, the global chemical industry has grown by 7% annually, reaching €2.4 trillion in 2010. Most of the growth in the past 25 years has been driven by Asia, which now owns almost half of global chemical sales. If current trends continue, global chemical markets are expected to grow an average 3% in the next 20 years, mostly pushed by the major players in Asia and the Middle East. Enjoying a home-field advantage, Asian players are positioned to own two-thirds of the market by 2030.

Meanwhile, growth in Europe is expected to be moderate at just 1%. In fact, we expect more than 30% of jobs to be lost in the European chemical industry by 2030 as a result of slow growth and productivity gains.

The Ruler Strategy

Considering the stable, slow, and somewhat linear evolution of the European chemical industry, the „ruler strategy" is likely to apply in the next two decades. This strategy disputes the emergence of disruptive market events, arguing that the chemical industry will largely continue to follow the trend of recent years. This is because of the dominance of robust shifts in the global economy, asset longevity, absence of major chemical revolutions and continuing innovation in established areas such as biotech and fuel cells. If the ruler strategy is accurate, Asia will dwarf North American Free Trade Agreement (NAFTA) countries and Europe in terms of chemical production by 2030.

> *We expect more than 30% of jobs to be lost in the European chemical industry by 2030.*

Customer industries will continue their move to Asia, ending the dominance of Western demand patterns and giving rise to a multipolar playing field with diverging requirements. The changing direction of trade flows between the Middle East-Asia region and Europe will also contribute to the sheer dominance of Eastern players.

It is time for players to prepare—to defend their home markets, develop growth platforms based on innovation and better value capture, participate more forcefully in Asian growth markets, and build the skills and scale required to compete.

Defending the European Market

One of the principal challenges for European chemical producers is the looming migration of some key customer industries to Asia. Defending the European market, therefore, begins with the right allies, such as those value chains that are less likely to migrate. In principle, industry value chains will stay in Europe if their customer industries stay intact and remain there. If production costs remain competitive and relocation is costly, incentives to move are low. Also, several inherent advantages of regional or local production can outweigh the advantages of producing in Asia; these include customer proximity, logistics costs, and the agility to respond to often rapidly changing customer demands.

In addition, preservation and further nurturing of the competitive edge in key areas will be important—areas such as innovation and complexity management, which are often brought to life by market dynamics and technological developments. Creating a supportive European regulatory environment will also help defend the European chemicals market.

Selecting the right business model is also essential. Focused specialists with a scale advantage in materials and in customer industries have the highest margins. By comparison, broad-based specialists are often challenged by the complexity of their product portfolios.

We expect focused specialists and integrated players to prevail by deploying their successful business models on a global scale. The business models are based on organic growth through innovation and investment in assets and capabilities. But success will also require courageous moves toward external growth, including mergers and acquisitions outside players' domestic markets.

> *Traditional strategic planning is no longer enough.*

Developing a Platform for Growth

This will mean European players continue their roles as pioneers in developing innovative products—participating in and further developing innovative industries in Europe.

Here, the focus will be on inventions aligned with global mega trends that ultimately generate future growth platforms. These include alternative feedstock and energy sources, improved energy storage, intelligent materials, environmental technology, and nutrition. These platforms will allow the European chemical industry to derive unique products, which are essential for growth.

Innovative solutions will help the chemical industry transition from a traditional supplier role of being paid by the ton of material to play a more important and indispensable role in the industry value chain. Every value chain has sweet spots that companies can use, to a certain degree, to control the development of the industry and earn above-average, sustainable returns. In chemicals, these include materials advantage, process excellence, patent control, and application know-how—and they reach far beyond the chemical industry to have, ultimately, an impact on end users.

Participating in Asian Growth

The current size of Asia's economic progress cannot be matched by any other region in the world. Therefore, the best option for European producers is to participate in Asian growth. To satisfy the demand in Asia, several customer industries for European players have already shifted activities to Asia and will continue to do so. Indeed, much of the global output in consumer goods, textiles, automotive, construction, industrial equipment, food, and agriculture is now increasingly allocated to Asian production sites.

Growth options for European chemical players include developing local products, collaborating with Eastern players, transferring know-how, developing specific local sales approaches, and adjusting offerings to local regions.

However, we advise our European clients to proceed with caution rather than rushing into Asia. China should not be the only market considered. There are several developing countries to keep an eye on. Although significantly more modest than China or India in terms of output volumes, Indonesia, Malaysia, South Korea, and Vietnam are also considerable Asian markets. The populous Turkey in Europe or Mexico in the NAFTA region are also markets with favorable demographics, ease-of-doing-business environments, and skilled workers. Countries such as Chile, Colombia, and South Africa also hold substantial development potential for similar reasons.

Creating a Supportive Environment

Beyond chemical companies, the broader community of stakeholders also has a role to play in the success of the European chemical industry. The first call to external stakeholders is to create a supportive environment for science and industry aimed at embracing innovation, promoting broader public acceptance of manufacturing industries, and fostering an environment in which the chemical industry and its customer industries can jointly develop a value network.

External stakeholders can also help create a level playing field by offering incentives to encourage fair competition, supporting research in new growth industries, striking a healthier balance of environmental regulations between the European Union and competing regions, and enforcing reasonable approval requirements, processes, and timelines.

Finally, stakeholders can help close the education gaps by building stronger education programs in chemistry, engineering, and other sciences from high school through the postgraduate levels.

Chemical Leader = Strategist

Preparing to meet the global challenges of 2030 is not for the faint-hearted. Tomorrow's chemical executives will not only be dealing with the unpredictable aftermath of the global recession and economic volatility, but also anticipating and preparing for a variety of other scenarios—from natural disasters and pandemics to terrorist attacks. Add demographic changes and the depletion of natural resources to the mix, and chemical leaders have their work cut out for them.

Traditional strategic planning is no longer enough. Chemical executives are now required to be versatile strategists, able to think in several worlds and prepare for various scenarios while gaining agility up and down the entire value chain. Success in the 2030 world of chemicals will require nothing less.

Authors: Dr. Otto Schulz, Partner, Chemistry & Oil Practice, and Dr. Joachim von Hoyningen-Huene, Principal, Chemistry & Oil Practice, A.T. Kearney

For more details on this topic and charts from the report, please refer to page 16 of this issue.

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The Latest From SOCMA

The Status Quo


Bill Almond

SOCMA congratulates Barack Obama on his re-election as President of The United States. Now that the most expensive (and bitterly fought) presidential election of our lifetime is over, it is necessary for us to assess the damage. A key takeaway of Election 2012 is the level to which our nation is divided. One hundred eighteen million votes were cast and President Obama was re-elected after winning only 50% of them. Governor Romney captured 49%, and nearly two million votes were cast for "others". This is hardly a mandate for change.

Then there is the money that was spent. More than $4 billion went into the campaign, which is the most any democracy has ever seen. Adding insult to injury, the Dow lost 2% the day after the election, underscoring a heightened level of economic uncertainty here at home and abroad.

In addition to President Obama's re-election, Democrats increased their grip on the Senate, and Republicans held on to their control of the House. In other words, this status quo election ensures continued gridlock in Washington. Moreover, moderates in both parties were defeated and, in some cases, replaced by strong partisans. For example, Massachusetts chose to throw out moderate Republican Senator Scott Brown, who was well-liked, in favor of an untested liberal, Elizabeth Warren.


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What this means for the issues important to specialty, batch and custom chemical manufacturers will become more apparent after the 113th Congress is seated in January. There are, however, a couple of certainties about which we know.

First, the top two priorities next year will be agreeing to a federal budget and ways to improve the economy. Serious consideration of many of the industry's specific priorities will have to wait in line until President Obama and Congress battle out these two issues.

Among those priorities is the Miscellaneous Tariff Bill, which needs to be approved without delay. Chemical manufacturers leverage duty suspensions to innovate and compete in the global marketplace. Action on this bill must be done in the lame duck session this year. Failing to do so would create economic uncertainty, especially among small and mid-sized specialty manufacturers who incorporate these duty suspensions into their budgets.

To help ensure the needs of specialty manufacturers are well-known to the new Congress, SOCMA will be launching its "First 100 Days" initiative in January. This effort will include meetings between industry leaders and SOCMA staff with a targeted list of Congressional members and committees who play a role overseeing our industry's priorities, such as policies that help our members remain competitive and expand their markets.

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SOCMA is a U.S.-based trade association dedicated solely to the batch, custom and specialty chemical industry. Since 1921, SOCMA has represented a diverse membership of small, medium and large chemical companies and has now a global membership of more than 210 companies.

Chemtura to Sell Antioxidant and UV Stabilizers to SK Capital Partners

In a deal expected to close in late 2012 or early 2013, U.S. additives producer Chemtura is selling its antioxidant and UV stabilizers business, including dedicated manufacturing plants in the U.S, France, and Germany, to an affiliate of private equity group SK Capital Partners.

The projected acquisition price of $200 million, which Chemtura said represents a 6.4 multiple on adjusted EBITDA for fiscal 2012 (September 30), is subject to a post-closing net working capital adjustment. Sales of the business in the same time frame were about $390 million. ■

Potash Corp Eyes Full Takeover of ICL

Potash Corp., the world's largest fertilizer manufacturer, is seeking a full takeover of Israel Chemicals Ltd. (ICL), in which it already owns 13.8%. The Canadian giant is said to have been interested in its much-smaller Israeli rival for some time but has faced government and regulatory opposition. Israel Corp. owns 53.2% of the fertilizer producer with a market value of $15 billion. Another 34% is in free float.

Any deal would require Israeli government permission. ICL has potash mining rights in the Dead Sea area and phosphate mining rights in the south and both are state-owned resources. As a foreign buyer, Potash would need permission from the regulatory body Government Companies Authority as well as the prime minister and the Antitrust Authority. ■

Quo Vadis Europe?

A Survey Among European and Non-European Chemical/Petrochemical Companies Paints a Diverse Picture of the Market Situation

Economic Outlook – Chemical and petrochemical companies are fairly pessimistic about the current state and future prospects of the European market, says a new survey conducted on behalf of the German management consultancy Camelot. The Euro crisis has already hit most chemical companies' European sales and many foresee the difficult conditions in Europe continuing for at least five years. On the other hand almost half of the 68 global chemical companies interviewed believe that the European debt crisis will be resolved within the next 3 to 5 years.

„Most global chemical companies are expecting their European sales to stagnate or decline in the near future", warns Sven Mandewirth, head of industry segment chemicals & petrochemicals at Camelot. „Global chemical managers are most afraid of market stagnation or decline caused by a slowdown of demand, followed by increasing raw material prices due to the weak Euro." Interestingly, however, non-European companies tend to be more pessimistic than European companies.

A Global Look at Europe

Conducted in September and October 2012, the survey questioned 68 chemical and petrochemical companies from around the world about the European market. The vast majority (46) of the companies were European, while 12 were from the Middle East, 7 from North and South America, and 3 from Asia. This global survey follows on from a similar CHEMonitor survey among German chemical managers about the European crisis, which was recently published in the German edition of CHEManager (20/2012).

The German View

German managers are relatively optimistic: 58% of surveyed companies feel better prepared for a possible economic downturn compared to 2008. Key to the robustness of the German chemical industry are the measures taken as a consequence of the last economic crisis: Optimization of organizational structures, flexibilization of employment and short-term work, a stronger focus on global markets, a stronger process orientation and decentralized decisions. Less than half of the managers interviewed consider the European debt crisis as the biggest threat for their business – rising energy costs are still by far their biggest worry.

European Market Situation

Although all the companies in the global survey generate sales in Europe, it is generally a much more important market for the European companies than for the non-European firms. Around 59% of the European companies generate over half of their sales in Europe, with 22% focused exclusively on Europe. In contrast, 80% of the non-European companies generate less than 30% of their sales in Europe, with only 2 non-European companies (both from the Middle East) generating more than 50% of their sales in Europe. Nevertheless, not all of the European chemicals manufacturers are so Europe-centric: slightly over 20% generate less than 30% of their sales in Europe.

At the moment, the majority of these companies are seeing no growth in their European sales, with 44% predicting falling sales for 2013, 35% predicting stagnating sales and only 21% predicting any sales growth. Companies from North and South America and the Middle East seem to be particularly suffering, with 57% and 80% predicting falling sales, respectively, compared with 37% of European companies. The vast majority of those companies predicting decreasing sales thought their sales would fall by less than 10%, with 24% predicting a fall of up to 3%, another 24% predicting a fall of up to 5%, and 45% predicting a fall of up to 10%, with only 7% predicting a fall of more than 10%.

Risks for European Businesses

Still, almost all the companies (82%) identified the market stagnation and slowdown in demand that is the prime cause of these falling sales as a major risk for their European businesses. Other major risks identified by over 30% of the companies include increasing raw material prices (41%), currency fluctuations (40%), decreasing sales prices (37%), and new trade barriers such as duties, tariffs and export/import regulations (34%). Inflation was less of a concern, with only 13% of the companies saying it was a major risk, although Middle East companies were more concerned than those from other regions, with 33% highlighting inflation as a risk.

The Euro Crisis

The majority of the companies don't foresee the difficult market conditions in Europe ending any time soon, with quite a few predicting that things are likely to get worse before they get better. Only 15% of the companies thought that the crisis in the Eurozone would be resolved within the next 12 months, the majority (50%) thought it would take 3 to 5 years to resolve, while 35% thought the crisis would last longer than 5 years.

Quite a few companies also predicted that the financial turmoil currently sweeping countries in southern Europe such as Greece, Spain, Portugal and Italy would spread north to other European countries. In fact, there was a roughly equal split between those who thought the contagion would spread (42%) and those who thought it wouldn't (38%).

On the whole, European companies tended to be more optimistic than non-European firms. Just under 20% of the European companies thought that the Euro crisis would be resolved within the next 12 months, compared with just one of the non-European companies. Likewise, 46% of the European companies thought that the financial turmoil wouldn't spread to other European countries, whereas only four of the non-European companies agreed, although 2 of each of the American, Asian and Middle East companies didn't give an opinion.

Companies from the Benelux and from German-speaking countries were the most positive, accounting for all the European companies that thought the crisis would be resolved within 12 months. In contrast, 6 of the 7 companies from the rest of Europe thought that the crisis would last more than 5 years.

Measures to Deal with Market Conditions

For most of the companies, simply waiting for the whole thing to blow over is not an option; almost all of them are actively instigating various measures to deal with the difficult market conditions. Understandably, the most popular measure is to expand sales activities, which just under half the companies are doing. Other popular measures include a closer focus on the customer, adopted by 38%, and a closer focus on specific countries and business segments, adopted by 26%.

„Preferred marketing strategies for increasing sales include focusing on stronger economies such as France and Germany, as well as concentrating on quality of services and building up a more diverse customer portfolio", says Mandewirth. On the other hand, 4 of the companies have yet to adopt any special measures.

Whether their predictions are accurate or their measures effective, these chemical and petrochemical companies have no choice but to follow Europe wherever it is going over the next few years. At the very least, it won't be dull.

Author: Jon Evans, Science & Technology Writer, Bosham, UK

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Akzo Nobel Takes Charge on Decorative Paint

Akzo Nobel has said it will take a €2.5 billion writedown on its 2008 purchase of the Dulux paints business of erstwhile British chemical conglomerate ICI in the third quarter, a move that will plunge the Dutch company into a quarterly loss of €2.4 billion rather than the profit of €154 million predicted by analysts.

The charge means that €2 billion of revenues and €200 billion of EBITDA have been deleted from the annual forecast, said chief financial officer Keith Nichols. The impairment reflects management's "realistic assessment" of the state of the European decorative paints market going forward, Nichols added, noting that, with many European paint consumers cash-strapped, a quick recovery cannot be expected. ■

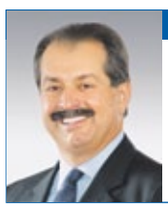
Dow and DuPont Cutting Jobs after a Devastating Quarter

After a bleak third quarter and expectations of a further weakening in the short-to-medium term, U.S. chemical giants Dow Chemical and DuPont have announced plans for massive job cuts. Midland, Michigan-based Dow said it would cut 2,400 staff, about 5% of its global workforce, and close 20 production sites in the U.S., Europe and Asia. DuPont in Wilmington, Delaware, has announced 1,500 global job cuts.

At Dow, where Q3 pretax profit was down 24% and sales down 10% to $13.6 billion, CEO Andrew Liveris said the restructuring moves demonstrate the U.S. group's resolve to tightly manage operations. One plant closure has already been identified, an 180,000 mt/y HDPE production facility at Tessenderlo, Belgium.

In September, Dow replaced its corporate divisions with a global business unit model that Liveris

Ellen Kullman, CEO, DuPont



Andrew Liveris, CEO, Dow Chemical

hopes will put the largest North America's largest chemical producer back on track. The chief executive said Dow made progress toward cost reduction in the third quarter, adding that the group is profiting from its "low-cost advantage" in leveraging shale gas feedstock.

DuPont CEO Ellen Kullman blamed weaker than expected demand for titanium dioxide (TiO2) for the falling third-quarter numbers, in addition to shrinking demand from the once buoyant photovoltaics industry. Across its business segments, the U.S. conglomerate saw its quarterly pretax income plummet by 54% to $355 million on consolidated net sales 9% lower at $ 7.4 billion.

For the fourth quarter, Kullman has revised earlier earnings guidance downward to $3.25-3.30 per share, based in part on a predicted steeper fall in TiO2 demand in the wake of weakening industrial and construction markets. To pull numbers back upward, DuPont has launched a restructuring program that targets pretax annual cost savings of $450 million and lower capital spending. ■

BASF Inaugurates China Innovation Campus

BASF recently inaugurated its new €55 million Innovation Campus Asia Pacific at Shanghai, China as part of its Greater China headquarters. Ultimately, more than 2,500 people will be employed at the Pudong campus, where around 25% of the German group's worldwide R&D headcount staff will work in 2020.

In the initial phase, around 450 people from 17 business units will collaborate in interdisciplinary teams, creating "innovations from Asia, for Asia and the world," BASF said, adding that the campus will be a "key enabler" for collaboration between employees and customers.

Research in China, BASF's third largest market, is focused on advanced materials including biopolymers for home and personal care applications, custom binders for waterproofing in varying climate conditions, thermally conductive plastics for energy-efficient lighting and advanced polyurethane formulations for footwear. ■

Chinese Risk Management

Are Chinese Chemical Companies Actively Managing Their Risk?

Dr. Bernhard Hartmann
A.T. Kearney China

Dr. Kai Pflug
A.T. Kearney China

No Risk, No Fun – It is frequently believed that Chinese chemical companies are not actively managing their business risks. While it is true that these companies tend not to have a comprehensive risk management framework, there are many examples of individual risk management measures.

Risk Avoidance

In winter 2009, natural gas was in short supply in China, leading to production stops at several urea producers. As a consequence, Guizhou Chitianhua decided to change its urea production from a gas-based to a coal-based process. Other companies including Yunnan Yuntianhua and Zhongyuan Dahua have announced similar plans. In essence, the change in raw materials eliminates the risk associated with the gas supply.

At the other side of the value chain, a portfolio change leading to elimination of inherently risky products similarly reduces risks. For example, Elion Energy recently announced plans to sell its sodium sulfide and sodium sulfate businesses due to the high environmental threats.

Process changes are typical measures to eliminate or reduce the chance of accidents and environmental pollution, e.g., change of solvent employed (coatings), change of catalyst and amount of catalyst (PVC production from calcium carbide), change of production method or process (e.g., from chemical to biotechnological, titanium dioxide production from sulfuric acid to chlorination process).

Risk Reduction

As the last example shows, there sometimes is no perfectly clear distinction between risk avoidance and risk reduction. However, the following measures are more focused on reducing risks than on eliminating them altogether. The implementation of strict safety measures is among these, and the establishment of conferences such as the International Forum on Work Safety held in Beijing testifies the growing interest in China.

The relocation of chemical production is related to the topic of safety measures, as recently done by Wuhan Inorganic Salt. Such a move from a downtown to a suburban site reduces the risk of the company's phosphate production. Today, many other companies also relocate to suburban sites or to sites within chemical parks, partly driven by government regulation as well.

Value chain integration such as the recent acquisition of a coking coal business by Zhongtai, with the explicit goal to cover all steps from coal to PVC, can reduce the risk of sudden changes in raw materials prices. Another way to reduce the risk of price fluctuations is stock reduction. This is particularly relevant if the raw materials or finished products are either high-value (e.g., in some fine chemicals) or subject to unpredictable demand changes (e.g., fashion dependant dyestuffs).

Of course, the establishment of stringent quality control will reduce the risk of major damages to customers and the company reputation. In their company presentations, listed Chinese chemical companies frequently proudly list their (Western) quality control equipment.

A very broad field for risk reduction is customer selection. This covers both the implicit selection coming from the payment terms offered to customers (obviously tightening payment terms reduces the risk of non-payment) as well as customer selection in a much broader sense. Specific industries, e.g., consumer, medical, are generally less cyclical, therefore focusing on these industries as customers reduces risk arising from volatile demand. This is one main reasons for preference of specialty chemicals over commodities. Furthermore, even within a specific customer industry, a customer analysis focusing on the stability and creditworthiness of individual companies can reduce risk.

Risk Transfer

Risks can also be partially or completely transferred to a third party. Obviously this third party will expect to get some benefit as well, for example a fixed premium or a share of any profits.

An obvious example is insurance. For chemical companies, insurance for environmental responsibility can transfer some of their business risk, and indeed in 2009, the Shanghai government started trial insurance for environmental responsibility. Several Shanghai based chemical companies are said to have bought the insurance.

Other examples are partnerships and joint ventures. Though synergies tend to be the main driver, they also serve to transfer part of the risk to the cooperation partner. And even massive companies such as CNPC are seeking participation of business partners – in fact, CNPC hopes that these partnerships will bring in at least RMB 200 billion. Similarly, for a domestic company, a joint venture with a foreign chemical company transfers part of the risk to the foreign partner.

Particularly in the production of solar cells, long-term contracts are utilized to transfer the risk of stable gas supply to industrial gas companies, e.g., Praxair's contract for supplying Evergreen Solar in Wuhan. Long-term sales contracts serve a similar purpose.

Related to this, hedging is allowing companies to lock in the price of certain chemical materials. For example, end users of LLDPE in different Chinese industries are increasingly using contracts on the Dalian Commodity Exchange to protect themselves from price volatility. Obviously, as with many risk management measures, hedging comes with a cost if prices do not move in the anticipated direction.

Finally, performance based pay may also be seen as a risk transfer measure. It may offer incentives and shifts part of the profit risk to employees. In particular, if incentives depend on the performance on the company as a whole rather than on individual performance, it realistically is more of a risk transfer measure than an incentive, as the individual employee only has limited influence on the overall company performance.

Risk Control

Risks should be anticipated and plans for utilizing suitable tools made. Market research is particularly important before major investments in cyclical bulk chemicals, it is being employed in many areas, e.g. in the volatile market for silicone monomer. Industry consultants thus see increasing demand for such research.

On a more strategic level, scenario analysis takes different developments into account, e.g., in the global oil price development. It may thus be utilized to control risk in the field of coal chemicals in China which heavily depends on the global oil price.

Scenario analysis is a tool utilized in strategic planning, a broader way of controlling risk. For example, Luxi plans to develop downstream products with high added value such as melamine, benzyl chloride, and methane chlorides, thus reducing the volatility of revenue as part of its overall strategy.

Closely related to the prior topic is strategic controlling: While not yet a major concept in Chinese companies, strategic controlling – the constant market scanning particularly of the environment for potentially business-relevant developments – also helps control risk.

Finally, risk control also means advance planning in the case a risk occurs. Preparing crisis management plans can reduce the consequences of individual scenarios (e.g., by having a ready-made action plan) and also helps to avoid risks in the first place if, e.g., advance planning leads to installing redundant production components.

Conclusion

As the examples show, much is being done by Chinese chemical companies to manage their business risk – maybe more than most companies are aware of themselves. The difference in risk management between domestic chemical companies and leading multinational companies therefore is not the existence of individual risk management measures, but the establishment of a comprehensive risk management framework.

As a consequence, the next step for domestic companies is to examine how complete their risk management is. A brisk management approach based on individual measures is likely to miss some important risks. A top-down risk analysis based on a comprehensive framework of possible risks can eliminate such gaps. In a world full of risks, the long-term survival of a company can only be assured by such an approach.

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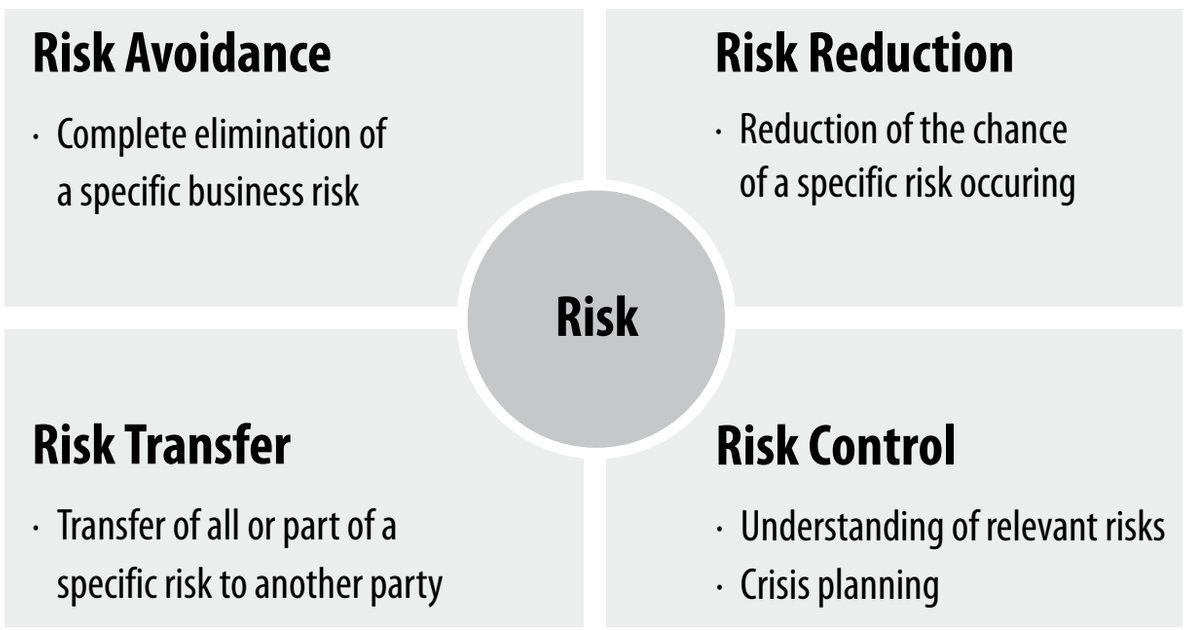


Fig. 1: Overview of risk management measures

"Information-Tech" Chemicals

Chemical and Component Opportunities in Asia

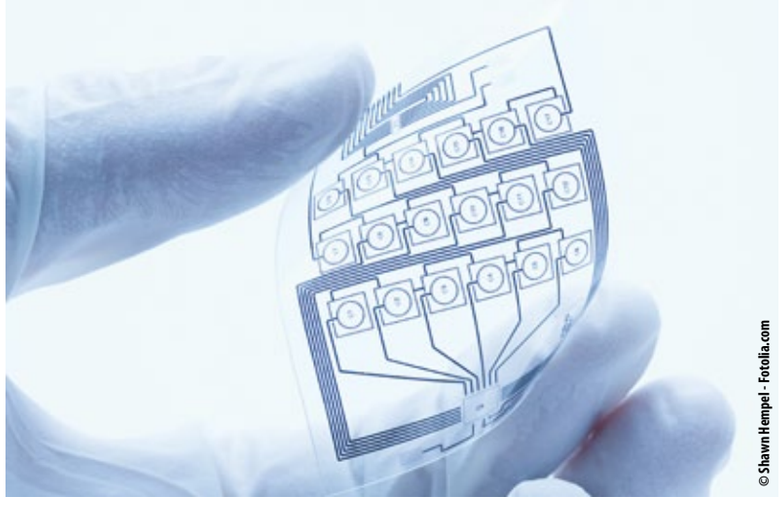
Materials – As Asia has dominated in displays, photovoltaics, semiconductor manufacture and other technology sectors, so too will it dominate in making and integrating better components and consumer electronics using the new materials that are enabling devices to be lighter, more robust, flexible, more power efficient and higher performance. Some of these most exciting material developments and their uses were covered at Printed Electronics Asia 2012, held in Tokyo on October 2-3.

Organic and Metal Oxide Semiconductors

R&D on organic semiconductors is strong in East Asia, where display companies are pursuing this for TFT backplanes for flexible displays. Some of the world's leading companies, such as Merck, Samsung, Solvay and Hitachi Chemical presented their latest achievements in organic and inorganic semiconductors. Indeed, speakers also covered progress with metal oxide semiconductors for large area and transparent electronics.

The Future of Transparent Conductors

Indium Tin Oxide (ITO) is 93% of the $1.63 billion transparent conductive film market in 2012. Indium is subject to supply restriction and its price has varied by a magnitude in the last ten years. It is required primarily for photovoltaics, displays and touch screen applications – enormous markets. Alternatives to ITO include transparent organic materials, finely printed conductive mesh, and other ways of patterning metal 'strands'. Some even use copper rather than silver to reduce cost. Others are progressing carbon nanotubes and graphene as a viable alternative. Speakers such as SWeNT, Osaka University and IDTechEx assessed these options and the opportunity and competitive nature of these technologies.



OLED Displays and Lighting

It has taken twenty years for LED lighting to become 3% of the $80 billion global lighting market, but it is now exponentially growing, appearing in everything from car headlights to home lighting to street lighting. What is the impact on OLED lighting? Will those in OLED lighting achieve efficiencies, yields and lifetimes fast enough before LED becomes ingrained? Printing is already being applied to LED lighting for connectors and even printing LEDs themselves. Others are mounting LEDs on flexible substrates. But will the thermal problems restrict the applicability of LED lighting on flexible substrates, paving the way for OLED lighting there? Who is investing in OLED lighting manufacturing? The lighting developers debated the topic at the event, covering opportunities for printed electronics in both LED and OLED lighting and its relation to old displays and the latest progress there.

New Materials and Applications

Other new material and component developments from companies such as Dow Chemical, Corning, AIST and many others – all selectively invited gave attendees a current view on the latest developments.

The market opportunities for these materials and the components they make were assessed, from in depth market research presentations given by IDTechEx, Navigant Consulting, NREL and others.

The next IDTechEx Event to take place is the Printed Electronics & Photovoltaics USA 2012 Show, Dec. 5-6, in Santa Clara, USA. For more information visit www.printedelectronicsusa.com.

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A Smart Target for Generics?

Orphan Drugs Losing Exclusivity Represent Opportunities for Manufacturers of Both Generic Medicines and APIs Contained in Generic Drug Products

New Markets – An estimated 25 million people in the U.S. suffer from rare diseases, known in the pharmaceutical industry as "orphan diseases". While the prevalence of each individual orphan disease is, by definition, low (affecting less than 200,000 Americans total), researchers have identified over 7000 orphan diseases to date and these numbers continue to grow each year.

Michael Glessner
Thomson Reuters

Traditionally it has been in the best financial interest of pharmaceutical companies to focus research and development efforts on drugs targeting common diseases to maximize the potential patient base and thus the potential to recoup drug development costs and generate profits. Recognizing this, the U.S. government passed the Orphan Drug Act (ODA) of 1983 to incentivize the development and commercialization of drugs to treat rare diseases.

Orphan Drug Act

The ODA provides federal tax credits of up to 50% of orphan drug research costs, seven year exclusivity on drug sales for the first company to receive FDA marketing approval, shorter clinical trial times and waivers for certain FDA fees including drug approval application and annual product fees.

The ODA has produced the desired effect of stimulating focus on developing therapies to treat orphan diseases as well as serving as the blueprint for similar pieces of legislation passed in other regions of the world. The European Union, for example, passed its orphan drug legislation in 2000 allowing designated products up to ten years of marketing exclusivity, as well as protocol assistance and possible fee waivers.

Today, orphan drug designations and approvals are being sought at record levels. According to a recent Thomson Reuters review of the economic power of orphan drugs the compound annual growth rate of the orphan drug market between 2001 and 2010 was actually higher than that of a control group of non-orphan drugs. With the high price tags, government incentives and high rates of regulatory success, orphan drugs have blockbuster potential for innovator companies. But does innovator success with this niche group of drugs translate to large profits for the companies that manufacture active substances and lower-cost generic versions of these therapies?

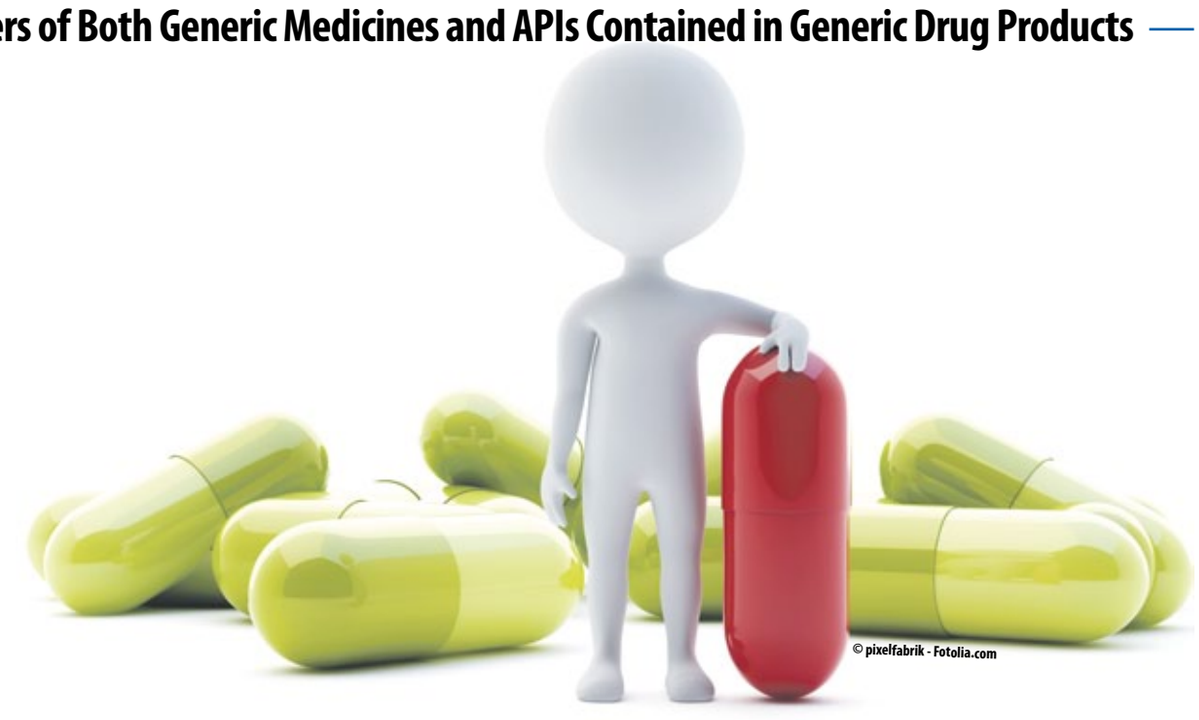
Orphan Drug Exclusivity

Many of the orphan drugs developed and approved in the wake of the ODA legislation taking effect have recently lost their orphan drug exclusivity (ODE); this trend will continue over the coming years as an additional 70 ODEs expire during the next six years (see figure 1). These products represent opportunities for manufacturers of both generic medicines and the active pharmaceutical ingredients (APIs) contained in generic drug products. Orphan drugs losing exclusivity often have high price tags and low marketing costs because they are produced in small quantities for a very specific patient population.

Because ODEs are not tied to patents, generics manufacturers can develop and often launch a drug protected by an ODE so long as the drug is approved for a different, non-infringing application. In fact, according to research compiled by Thomson Reuters, manufacturers are already producing or capable of producing commercial quantities of many of the APIs associated with drugs currently protected by ODEs (see Table 1).

Table 1 shows a small sample of the ODEs that expire over the next few years and the number of API manufacturers who currently have these drugs under development or commercially available according to information in Thomson Reuters Newport Premium.

This list represents a variety of different therapeutic areas, mechanisms of action and revenue potentials. Imatinib mesylate, for example, is a blockbuster oral-dose drug approved to treat nine different cancers and boasting over $4 billion in worldwide sales during the FY ending March 2012. Imatinib has been granted orphan drug exclusivity 4 times since 2001, most recently for arterial hypertension in 2010. In addition to the ODEs, imatinib has patent constraints protecting it from generic competition until late 2015.



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Conversely, decitabine is a parenteral treatment for myelodysplastic syndromes and had less than $250 million in worldwide sales during the same fiscal year in which imatinib generated greater than 16 times those sales figures. Decitabine has been granted orphan drug exclusivity for sickle cell anemia and acute myelogenous leukemia (AML); the yet-unexpired ODE for AML is the only barrier preventing generic competition. What imatinib and decitabine have in common is that at least 20 API manufacturers currently are capable of producing commercial quantities or have the product under development.

API manufacturers recognize different types of opportunities in orphan drugs, from blockbusters with high-volume, high-sales potential to niche products requiring high-quality rare chemical substances with the potential to command high prices even in the genericized market.

Incentives for Innovation in Pharma

Obviously, incentivizing legislation like the US Orphan Drug Act is directed toward innovator companies and perks such as tax credits and fast-track approvals are not provided to generic companies who make copycat versions of orphan drugs. The extended market exclusivity the ODA provides can actually be seen as a deterrent to generic competition, as in some cases this exclusivity delays generics from entering the market. Yet, as seen in Table 1, many manufacturers are already developing APIs for orphan drugs that have yet to lose their exclusivity.

As discussed above some orphan drugs like imatinib are approved for multiple indications and are not used solely to treat rare diseases. Many of these drugs are billion dollar blockbusters and are targeted by generics in spite of, not because of, their orphan drug designations. However, even niche orphan drugs that are developed as therapy for a specific rare disease may be viable targets for generic competitors.

High priced innovator drugs and limited market competition allow generic companies to demand relatively high prices for orphan drug copycats. Innovator companies often release an orphan drug only in select countries; this opens the opportunity for generic manufacturers to target larger, global patient populations and perhaps control some smaller markets.

Orphan drugs traditionally have strong safety profiles compared to non-orphan drugs; the risk of targeting an orphan drug only to see it pulled from the market due to safety concerns is extremely small. Orphan drugs for rare cancers make up nearly 40% of orphan drugs designated in the US and Europe; these therapies often end up being designated for one or several additional indications thus increasing the potential market. Finally, innovator companies assume great upfront risk and cost in developing orphan drugs in the hopes that they will be rewarded with reimbursements and approvals following orphan drug designation. Generic companies take a much smaller gamble than the manufacturers of the pioneer product because they know the approval fate of the drug prior to investing development dollars and they don't need to deal with the large cost and complications associated with finding patient populations on whom to run efficacy trials.

Outlook

The Orphan Drug Act and related global legislation have been highly successful in directing interest and motivation toward the treatment of rare diseases; in the US alone over 2,000 molecules have received orphan drug designation and the FDA has approved more than 350 orphan drugs since the ODA went into effect in 1983. As many ODEs are moving toward expiry, generics and API manufacturers are poised to cash in on these once-ignored now profitable markets.

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Table 1: API Development of Orphan Drugs

ODE expiry	Drug Name	API manufacturers**
2013	imatinib mesylate	21
	decitabine	20
	lenalidomide	11
	thalidomide	11
	dasatinib	10
	somatropin	8
	ibuprofen lysine	7
	vorinostat	4
2014	raloxifene hydrochloride	11
	sorafenib tosylate	8
	ambrisentan	7
	temsirolimus	5
	somatropin	8
2015	bendamustine hydrochloride	10
	rufinamide	7
	tetrabenazine	4
	imatinib mesylate	21
2016	tadalafil	16
	ganciclovir	12
	colchicine	8

** Companies confirmed as under development or capable of producing commercial quantities in Thomson Reuters Newport Premium

Sanofi Lets Genzyme's Biotech Culture Call the Shots

When Sanofi boss Christopher A. Viehbacher first met staff at Genzyme, the U.S. biotech he had just acquired after a long takeover battle, he told them he did not want "planeloads of people coming from Paris over here to kind of Sanofize Genzyme". More than one year later, the German-Canadian, who is Sanofi's first non-French boss, has kept his promise: it is Genzyme's free-spirited culture and innovative edge that is holding sway at the French drug giant.

Genzyme executives now run the company's U.S. headquarters near Boston, one of its international research hubs which Viehbacher is betting on to revive Sanofi's lackluster drug research results.

Highlighting Genzyme's dominance, Sanofi's newly-appointed deputy head of research and development operations, virologist Gary Nabel, will be based at Genzyme's head office in Cambridge, Massachusetts. Nabel, a highly respected scientist at the U.S. National Institute of Allergy and Infectious Diseases since 1999, is a notable catch for Sanofi.

Even the group's new headquarters in central Paris has a biotech feel, with open-plan offices and multiple meeting rooms designed to encourage staff to share ideas. "It's an approach Sanofi is adopting at a global level," an analyst said on condition of anonymity. "It's a different approach and it will take a bit more time to implement in France, but the decisions that have been taken are being put into practice anyway."

The Genzyming of Sanofi provides another example of how mainstream pharmaceutical companies are increasingly turning to the nimble, risk-hungry biotech sector - not only for new drugs but also for new ways of doing business. ■

Boehringer Settles $95 Million Marketing Claim

Boehringer Ingelheim Pharmaceuticals has agreed to pay $95 million to U.S. government agencies to settle civil allegations that it illegally marketed drugs for unapproved uses. The Justice Department said the company based in Germany with U.S. headquarters in Connecticut, promoted four drugs improperly.

Products singled out in the government's charges touched off by a whistle-blower in Maryland, included the heart drug Aggrenox, which Justice said Boehringer also claimed could be used to treat secondary stroke, as well as the chronic obstructive pulmonary disease treatments Atrovent and Combivent and the hypertension drug Micardis. Boehringer said it agreed to settle out of court to save the time and expense of contesting the charges. ■

Lonza and Oncomed to Collaborate on Anti-Cancer Therapeutics

Swiss chemical and life sciences group Lonza is cooperating with OncoMed Pharmaceuticals on process development and manufacture of OncoMed's pipeline of monoclonal antibody portfolio targeting the biological pathways critical to cancer stem cells.

The plan calls for Lonza to develop and manufacture OncoMed's bulk drug substance in its Slough, UK facility. Included in the contract is a multi-product GS license with access to Lonza's GS Gene Expression System and Version 8 Media and Feeds Manufacturing Platform. ■

Roche May Face Drug Safety Reporting Fines

The European Medicines Agency (EMA) has started infringement proceedings against Roche for its alleged failure to fully report tens of thousands of cases of adverse drug reactions. It is the first such case brought by the agency since the pertinent legislation came into force five years ago. If found guilty, the Swiss drug maker could be fined up to 5% of its annual EU sales.

The charges stem from a routine inspection in June of this year, during which British investigators found that Roche had failed to properly assess up to 80,000 cases of possible adverse drug reactions. The issues pertain to 19 medicines across the company's portfolio, that were part of a financial reimbursement system in the U.S. The list includes blockbusters such as Herceptin, Avastin and Tamiflu.

In other Roche news, the Indian patents appeal board has revoked a patent granted to the company six years ago for its hepatitis drug Pegasys. The country's Intellectual Property Board cited a lack of evidence that the drug was any better than existing treatments as well as its high price. India is now taking a tougher line on pharmaceutical pricing and plans to dramatically increase the number of essential drugs subject to price regulation. ■

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Pharma vs. the World

Big Pharma Caught Between Investors and the Public

In A Clinch – Big Pharma today encounters a variety of pressures from generics manufacturers, governments, patient advocacy groups, investors, physicians and even other pharmaceutical or biotechnology firms. In contending with these pressures, companies strain to focus upon the needs of their main stakeholder, the investors or shareholders.

As the timeframe of exclusivity shortens and regulatory requirements increase, companies are faced with declining profits and decreasing brand cachet, especially in emerging markets. On top of this, they have to deal with reference pricing and stringent healthcare cost controls being set up by various governments, particularly in Europe. According to Sanofi's CEO, Chris Viehbacher, the financial situation in Europe has been costing Sanofi €200–€300 million ($262–$393 million) a year as a result of governments' healthcare spending cuts.

Sanofi has faced an interesting year in the spotlight, with their latest hurdle being Sanofi's pricing strategy in Japan coming under question. Sanofi's IPV Imovax Polio SC injection is currently priced at almost 5,500 yen per syringe, which comes at an almost 270% price premium compared to the cost of the same vaccine in the U.S. Japanese officials at the Ministry of Health, Labour and Welfare (MHLW) have issued repeated letters to the executive board of the pharmaceutical behemoth, requesting that they revise prices prior to entry into the market.

Sanofi's executives have held fast, and have issued strong statements to indicate that the price points instated for the IPVs were needed to recoup costs incurred to enter the Japanese market. However, Sanofi faces the looming threat of new entrants from domestic combinatorial vaccine manufacturers that are poised to enter the market in the very near future, and will likely usurp Sanofi as the leading IPV vaccine manufacturer in Japan. Consequently, the company has precious little time to earn substantial revenue from the sale of its polio vaccine in Japan.

In the case of vaccines, manufacturers are less and less inclined to invest because of reasons as simple as a poor business model. The vaccine segment, seen as a silver bullet by global health initiatives, is no cash cow for pharmaceutical companies. The one anomaly to this generalization would be the influenza market, which benefits from antigenic shift of the virus, thereby resulting in the need for a new annual vaccine against the viral strain in circulation. As a company attempts to recoup costs of development, one sees this reflected in the price of each vaccine. However, as manufacturers attain superior levels of efficacy with their vaccines, they are forced to reinvent the wheel to substantiate the switching costs as patients move from one therapy to another.

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Market Pressures

More and more, companies like Sanofi are finding themselves pushed up against a wall by a number of different stakeholders. Sanofi is currently in a lawsuit against physician buying groups, who claim that Sanofi's contracts mimic anti-trust laws and limit healthy market competition. Novartis is also currently embroiled in a lawsuit with Indian courts over the prices of cancer drug Gleevec, with the company asserting that most patients who participated in the trial did not have to pay out of pocket for the pricey drug treatment. Gilead, a leader in HIV therapeutics, has similarly been pressured by health advocacy groups and other lobbyists to provide their therapies at a discount to patients in countries with a low annual GDP. Gilead, potentially coerced into responding to these claims, has succumbed to these external pressures and agreed to participate in the transfer of technology to promote the distribution of their drugs as generics. In August 2012, the company signed deals with Mylan, Strides Arcolab, and Ranbaxy to manufacture low-cost generic versions of its HIV drug, Emtriva (emtricitabine).

In Between Investors and The Public

Clearly, drug makers have to walk a fine line while attempting to please both investors and the public – two parties with contrasting expectations and demands. Despite the efforts of companies like Gilead and Roche at running "access" programs, which aim to make their drugs affordable for developing countries, the public still cringes at the mammoth profits announced by these drug makers every quarter. How profitable should pharmaceutical companies be in order to please both sides? Should there be a limit to their profitability, bearing in mind the expensive, lengthy, and risky drug development process? How do pharmaceutical companies prove that they care about patients if the very life-saving treatments they develop are unaffordable by those who need them the most? How involved should patient advocacy be in drug pricing, bearing in mind that with every 'victory' they get, they come back with even more aggressive demands?

These are some of the pressing questions begging to be answered. Irrespective of the enthusiasm shown during the launch of a new drug or vaccine, it all comes down to one thing in the end – pricing. Will pharmaceutical companies stand their ground or will they yield to the demands of the public? Sanofi has chosen the former, at least for now.

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Biosimilars on Their Way into Global Biopharmaceuticals Market

With an introduction to the U.S. set for 2014, and the realization of massive potential in the emerging markets of Asia, biosimilars are set to take a sizable chunk of the global biopharmaceuticals market by 2020.

According to the GBI Research study (Biopharmaceutical Manufacturing in India, China and South Korea – Regulatory Framework, Infrastructure Support and Discovery Funding Create an Environment Conducive to Growth), the massive potential for pharmaceuticals in the U.S. means that the country's biosimilars market could be valued at $9 billion by the end of the decade, despite the fact that they will only enter the market in 2014.

Similarly, the activities of major pharmaceutical companies such as Dr. Reddy's will see the Indian biosimilars sector treble in value in just five years, from $482 million in 2011 to $1.4 billion by 2016.

GBI Research notes that 'pharmerging' countries across Asia have attracted the interest of big biopharmaceutical players, with lenient regulations and tax incentives available during the initial industrial phase.

Already more than 20 biosimilar companies operate in India, with approximately 55 products in the market, while the State Food and Drug Administration (SFDA) in China had approved 40 biopharmaceutical products up until December 2011 – the majority of which were biosimilars. South Korea has also on record as a committed industry advocate, with the Korean government announcing a target of achieving 22% of the global market share for biosimilars by 2015.

The global biopharmaceutical market was valued at $138 billion in 2011 and is expected to grow to over $320 billion by 2020. Roche dominated the global production of biopharmaceuticals last year, manufacturing 25% of the total. Johnson & Johnson was second with a share of 8.8%, while Boehringer Ingleheim was the third largest manufacturer in the sector, holding an 8.5% share.

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Germany's Merck Halts Erbitux Sales to Greece, Lifts 2012 Outlook

German pharmaceutical and chemical producer Merck said it has halted sales of its cancer drug Erbitux to Greek public hospitals because of unpaid bills. The supply stop will not affect Greek pharmacies, chief financial officer Matthias Zachert told the German press.

Along with other pharmaceutical producers, Merck has payment issues with other Southern European public hospitals, but Greece is the only country to which it is stopping supply, and Erbitux the only product.

For several months, drug makers have accepted only cash for orders. Now, to resolve the crisis, companies belonging to the European Federation of Pharmaceutical Industries and Associations (Efpia) have offered to cap the amount the Greek government has to pay for medicines in exchange for a ceiling on outpatient pharmaceutical expenditure of €2.88 billion in 2012. In October, Greece suspended all drug exports to prevent shortages.

The family-controlled Darmstadt, Germany-based pharma and chemicals group lifted its 2012 outlook and beat expectations for Q3 results as it capitalized on its strong position in the market for chemicals for flat screens.

Merck now expects adjusted EBITDA this year of €2.90-2.95 billion ($3.7-$3.75 billion). That is the upper half of its previous target range and compares with €2.9 billion expected on average by analysts.

Merck also benefited from continue price increases in the U.S. for multiple sclerosis drugs, where the company sells its established Rebif injection, and from an ongoing cost cutting program. Q3 adjusted EBITDA rose 15.6% to €754 million, above a forecast for 740 million in a Reuters poll. Revenues also exceeded expectations.

The company is slashing costs and jobs after a number of setbacks in drugs development left it without any significant pharmaceuticals in its late-stage development pipeline. ■

DSM Seeks Partners for Caprolactam and Custom Drugs

While DSM is still searching a partner for its custom-drug production, it is also looking for a partner or buyer for its European and North American merchant caprolactam business that is faced with squeezed margins, CFO Rolf-Dieter Schwalb said in presenting financial results for the third quarter. DSM has captive use for about a third of caprolactam output, mainly for its polyamide business, but Schwalb said the remaining two-thirds of output has been pressured by volatile benzene prices and declining demand from the automotive and construction industries.

No improvement in the business is expected in the short term, especially in view of worldwide capacity expansions. Rather than an outright divestment, the CFO said a production arrangement with a third party would be acceptable. An agreement of this type already has been reached with Shaw Industries. For the third quarter, DSM reported a 20% decrease in EBITDA to €270 million on net sales down 1% to €2.3 billion. ■

Novartis U.S. Plant Gets Clearance

Swiss drugmaker Novartis's plant in Bloomfield, Colorado has just passed an inspection by U.S. regulators, giving it hope that quality control problems in its North American plants are being solved. Last December, the U.S. Food and Drug Administration (FDA) cited Novartis for significant violations of manufacturing regulations at its three generic drug plants in Colorado, North Carolina and Quebec, Canada.

CEO Joseph Jimenez said that Novartis had been working since January to bring quality standards back up to the level of other Novartis plants. ■

DSM to Buy Nutrition Specialist Fortitech for $634 Million in Cash

DSM is paying $634 million in cash to acquire U.S. human nutrition specialist Fortitech, a global producer of food ingredient blends for the food & beverage, infant nutrition and dietary supplements sector. Based at Schenectady, New York, the company with 520 people employees has six production facilities, at New York and California in the U.S. and at Campinas, Brazil; Kuala Lumpur, Malaysia; Gastrup, Denmark; and Poznan, Poland. DSM announcement of plans to buy into the U.S. nutrition business follows on the heels of Bayer's announced bid for vitamin producer Schiff. DSM said it is paying an EV/EBITDA multiple of about nine to acquire Fortitech, which projects sales of around $270 million and EBITDA of $70 million for 2013. It Synergies of around 10% of sales are expected to be realized by 2015. ■

GeneQuine Biotherapeutics Closes Seed Financing

The Hamburg, Germany-based biotech startup GeneQuine Biotherapeutics announced the completion of a seven-figure seed financing round. Investors are the German seed funds High-Tech Gründerfonds, Bonn and Innovationsstarter Fonds Hamburg. Funding will be used to perform proof-of-concept studies with the lead product - a gene therapy drug for the treatment of osteoarthritis in horses.

GeneQuine Biotherapeutics develops gene therapy for the treatment of osteoarthritis, a degenerative joint disease with high unmet medical need. While osteoarthritis is the most common joint disorder in humans - especially in the aged population - it is also a major health problem with significant market volume in horses and dogs. ■

Shale Gas Bonanza

While the U.S. is Embracing the Shale Gas Boom, European Countries are Discussing the Safety of Fracking

Feedstocks – The rest of the world will have difficulties replicating the shale gas boom in the U.S. despite having plentiful reserves of the gas. Furthermore, there could be long delays before even significant amounts of shale gas are produced outside North America because of technological, economic and regulatory barriers. These were the key messages conveyed by some speakers at the Gastech Conference and Exhibition at the ExCel in London in October.

"There is an abundance of shale gas and shale oil," said Per Magnus Nysveen, partner at Rystad Energy, a consultancy in Oslo, Norway, which has assessed shale gas resources across the world. "(Could it be) an American miracle that the rest of the world may never experience? We believe that there is a long way to go from unconventional resources to profitable production for all formations we have assessed."

US and Canada have Advantages

The U.S. and to some extent Canada currently have unique advantages in having ideal geology for shale gas production as well as the infrastructure, a well-established regulatory regime and technological know-how, the conference was told. As a result the shale gas industry in the U.S. grew by 45% annually from 2005 to 2010 and now account for 24% of overall gas production in the country against 4% in 2005. By 2030 the U.S. government expects shale gas to supply half of the country's demand for gas.

Shale gas (as well as oil), which is locked in fine-grained sedimentary rock, has been produced in small quantities in the U.S. for decades. Major recent improvements in technologies for horizontal drilling combined with hydraulic fracking, which applies water mixed with chemicals to create fissures in the rock to extract the natural gas, have been a big impetus behind the U.S. shale gas bonanza.

Concerns about the Safety of Fracking

Despite concerns across the U.S. about the safety of fracking, particularly its potential to pollute local water supplies, the shale gas sector believe that it has demonstrated its ability to protect human health and the environment from the effects of production of the gas.

"Thousands and thousands of wells have been drilled in North America and to date there have been no cases of groundwater contamination by hydraulic fracking," said Rustom Mody, vice-president technology, completions and production, Baker Hughes, the U.S.-based oil and gas production services company. "None of the chemicals used are toxic. Most appear in every day materials including food and about 91% of what is pumped downhole is water."

"The increase in shale gas production outside North America is going to be a slow process."

Per Magnus Nysveen, Rystad Energy

The horizontal drilling and fracking technologies developed in the U.S. and their safety protocols and standards are being exported to exploit the huge shale gas resources across the world. Yet because of a variety of obstacles, output of shale gas outside the U.S. will be minimal – at least for the rest of the current decade. "We expect no significant commercial shale development before 2020 outside North America," said Mr Nysveen.

This was a view echoed by other speakers who believe that the high hopes of large quantities of shale gas and other unconventional sources of gas will not be realized for a while. In Europe, for example, there may be shale gas available on the market but it will be coming not from domestic producers but from U.S. imports.

"In many cases environmental, political and regulatory factors have been the greatest obstacles," said Noel Tomnay, head of global gas research at Wood Mackenzie, an Edinburgh-based energy consultancy. "A number of European governments have gone further and imposed moratoriums on fracking. As a result it's possible that within the next 5 to 10 years European gas demand could be served by more shale gas from the U.S. than Europe."

The Czech Republic could be latest among European countries to introduce a moratorium on shale-gas exploration. Currently there are moratoria in Romania, Austria and parts of Germany, while France and Bulgaria have banned it.

Most Limiting Factor is Geology

However environmental regulatory restrictions are not necessarily the biggest hurdles, particularly elsewhere in the world. Others include inadequate backup services and infrastructure, lack of favorable leasing regulations and high taxes, according to Mr Nysveen.

Like some other speakers, he pointed out that the "most limiting factor is geology" because of the demands geology can make on technology and costs.

Mr Tomnay said problems posed by geology in countries like China, which is estimated to have shale gas reserves around three times greater than those in the US, were holding back production projects.

"The geology has proven to be harder (than expected) in many areas," he said. "So much so that in China we expect the biggest non-conventional gas-growth story in the next five years will be coal-to-gas rather than shale or coal bed methane (CBM)."

The U.S. and Canada has ideal geological conditions for shale gas production, stemming from the Late Cretaceous period with carbonate contributing to the relatively high levels of brittleness of the shale rock in plays or geological formations like Eagle Ford and Niobrara, according to Mr Nysveen.

"There is still no evidence yet that analogues to the North American geology with homogeneous, unfolded and largely unfaulted, brittle and rich source rocks, can be found in other parts of the world," he said.

The minimum geological requirements are a total organic carbon content of at least 2%, 100-feet thicknesses and 2,000-feet depths or more of shale rock, clay content of up to 60% and a flat surface, Mr Nysveen added.

Due mainly to unfavorable geological conditions outside North America exploration and production of shale gas will be expensive so that producers will need relatively high gas prices to ensure adequate financial returns. "Companies won't invest in shale gas without high gas prices," said Mr Nysveen.

Yet currently there are downward pressures on gas prices in Europe and Asia where traditionally natural gas prices have been linked to crude oil prices. As a result gas prices are 2-3 times higher in Europe than in the U.S. while in Asia the gap is even wider.

Gas Demand in Europe

Gas supplies look likely to continue to outstrip demand with recent discoveries of enormous reserves in areas like East Africa. "The last two years have been the most successful for gas exploration for a generation," said Mr Tomnay.

Meanwhile gas demand has been going down in Europe because of competition from renewable sources of energy. In Germany gas demand dropped 17% in 2011 and is expected to remain largely flat this year and in 2013 mainly because of the impact of renewables, according to Norbert Kint, head of trading at EconGas, Austria. .

Also the effects of the shale gas bonanza in the U.S. are beginning to influence demand in Europe. In the UK gas demand went down by 16% in 2011 with an expected 7% fall this year, due to power generators switching to cheap coal exports from the US. Coal producers in the U.S. have had to divert output into export markets because power companies in the country have been cutting coal consumption to take advantage of low gas prices, according to Mr Kint. "The U.S. is now exporting roughly 25% more coal in the direction of Europe," he said.

Gas companies in the U.S. are also preparing plans to export to Europe shale gas-derived LNG and natural gas liquids (NGLs), such as ethane and propane to provide feedstocks for petrochemicals. Ineos Europe, the Swiss-based petrochemicals producer, has recently signed a 15-year deal with Range Resources of the U.S. for supplies of ethane and propane from the Marcellus shale gas play in Pennsylvania.

The prospect of low-priced gas from the U.S. possibly undercutting gas prices in Europe is thought to be a major factor behind a current lack of big investments in shale gas exploration and production in the region. In other parts of the world low gas prices are also delaying investments, particularly by international oil companies.

A Look into the Future of Shale Gas

Mr Nysveen reckoned that global production of shale gas outside the North America will rise to around 10 million of barrels of oil equivalent per day (boe/d) by the mid-2030s, rising to around 25 million boe/d by the mid-2050s. With the addition of shale gas output from the US, shale gas worldwide should account for 25% of global natural gas production by 2040.

A large proportion of the shale gas production outside North America in 20-30 years will come from a relatively small number of countries, such as Argentina, China, Brazil, India, Ukraine, Kazakhstan and Algeria. The biggest European producers will include Germany, France, Poland, Romania and Russia, according to Mr Nysveen. "The increase in shale gas production outside North America is going to be a slow process," he said.

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Uhde Wins Contract for U.S. Fertilizer Plants and Vietnamese LDAN Plant

ThyssenKrupp Uhde has been selected by CF Industries to provide engineering and supply services for two fertilizer complexes in the USA. CF Industries will construct new ammonia and urea/urea ammonium nitrate (UAN) production units at its complex in Donaldsonville, Louisiana, and new ammonia and urea units at its complex in Port Neal, Iowa. Overall expenditure on the projects will total $3.8 billion.

The $2.1 billion project budget for expansion of the fertilizer complex in Donaldsonville encompasses an ammonia plant with a capacity of 3,300 t/d of ammonia, a urea plant with a capacity of 3,500 t/d of urea, a nitric acid plant with a capacity of 1,520 t/d of nitric acid and a UAN plant with a capacity of 4,500 t/d of UAN solution. The ammonia, nitric acid and UAN plants will be based on ThyssenKrupp Uhde processes while the urea plant will employ the synthesis process belonging to Stamicarbon. The urea and UAN plants are scheduled to come on stream in the second half of 2015 and the new ammonia plant in 2016.

In Port Neal, Iowa CF Industries plans to build an ammonia plant with a capacity of 2,200 t/d, a urea plant with a capacity of 3,500 t/d and a urea granulation unit with a capacity of 3,500 t/d. The budget for this capacity expansion is $1.7 billion with the new plants scheduled to come on stream in 2016.

For both fertilizer complexes Uhde will be responsible for the basic engineering, detail engineering, procurement and supply services, as well as providing services during construction and commissioning.

ThyssenKrupp Uhde is also part of a consortium including Toyo-Thai Corp., Toyo-Vietnam Corp. and Lilama 69-1, which has been awarded a contract for the construction of a low-density ammonium nitrate (LDAN) plant in the Thai Binh province in Vietnam on lump sum turnkey basis by Mining Chemical Industry Holding Corporation (MICCO). The scope of services will include basic and detail engineering, equipment and material supply, construction work and commissioning. The contract is worth approx. $200 million.

This plant, which will go on-stream beginning of 2015, will have a capacity of 625 t/d LDAN and will cover Vietnam's demand for technical ammonium nitrates for the civil and mining industry. The project also includes a nitric acid plant with a capacity of 500 t/d and all necessary offsites and utilities. ■

A Price Tag of 1.2 Billion Euros

Licensing, Engineering & Supply Services for Major Fertilizer Complex in Algeria by ThyssenKrupp Uhde

Mega Project – As the world's population rises, there is a growing demand for fertilizers. Huge energy reserves, such as petroleum and natural gas deposits, are an ideal basis for a fertilizer complex. Therefore, ThyssenKrupp Uhde gets as close as it possibly can to the feedstock sources in order to offer its customers the greatest possible operational economy for the plant.

A new fertilizer complex in Arzew, some 350 km north-west of the Algerian capital Algiers, comprises two ammonia plants with respective production capacities of 2,200 t/d and a urea plant with a production capacity of 3,450 t/d plus numerous offsites and auxiliaries, such as storage and shipping facilities. The Algerian company Sorfert Algérie, which runs the complex, is a joint venture between Orascom Construction Industries (OCI) and Sonatrach, the Algerian state oil and gas company. The basic engineering began in mid-2007, and after a construction period of less than 4 years OCI started production at the new fertilizer complex in the first quarter of 2012.

With a price tag of €1.2 billion, the Sorfert project has been the biggest single order in Uhde's history thus far. 250,000 t of freight, including 15,000 t of structural steel, 11,000 t of piping and hundreds of pieces of engineering equipment, were provided by materials suppliers from 17 countries and transported in a total 350 shipments. But there was more to this landmark project than can be expressed simply by numbers. Sophisticated project management was also necessary to ensure that the construction schedule progressed smoothly.

Process Technology and Project Delivery Network

The ammonia plant is based on Uhde's proprietary ammonia process while the urea plant uses Stamicarbon's synthesis process. The license for the fluid-bed urea granulation process was supplied by Uhde Fertilizer Technology, who took over the exclusive license rights for this technology from Yara in 2005. All selected processes are particularly environment-friendly and meet the stringent Algerian and European standards. The plant uses domestic sources of natural gas as feedstock. Sorfert Algérie mainly produces the more than 1.1 million t/y of urea fertilizer and the around 750,000 t of excess ammonia to serve export markets.

ThyssenKrupp Uhde has been able to combine the advantages of its intelligent network and the close cooperation of a number of local organizations within the Sorfert project. For example, the engineering concept was developed with Uhde India and local authorities; Uhde India, Uhde Engineering de México, Uhde Engineering Egypt and other international engineering offices were involved as early as the basic engineering phase; and a substantial part of the detail engineering was prepared by Uhde India. Uhde Shanghai, Uhde India and Uhde Engineering Egypt were involved in the global procurement concept and provided extensive expediting and inspection services including permitting.

Logistics and Staffing

Given the global nature of the procurement activities, the Sorfert project posed a major logistical challenge. The project equipment was shipped to Algeria from over 17 countries around the world. The consignments were inspected for the customer by skilled personnel at the loading ports and at the destination port.

A heavy road haulage specialist from Dortmund, Germany was put on hand at the port of discharge to assist the customer in particular with the heavy lifts which had a unit weight of up to 450 t.

The staffing of the on-site construction supervision was also planned globally from the outset. The Document Management and PDMS functions are being staffed by Uhde India, which is also providing support for MC Management and Schedule Controlling. Uhde Engineering Egypt is providing the Warehouse Manager and support for QA/QC. TK PDNA Engineering is providing the supervisors for erection of the tanks and piping. Thus, together with the local workers and other specialists from all four corners of the globe, a very harmonious team has been formed.

Know-How and Process Supervision

"We are tasked with supervising all the erection work undertaken by our Egyptian erection partner Orascom and with monitoring on-schedule completion in accordance with the quality standards", said Martin Heydemann, ThyssenKrupp Uhde Project Director of the Sorfert Algérie project.

There are generally several thousand construction workers assigned by Orascom to the concrete and steel construction work, the tank and piping prefabrication, as well as the laying of the underground plastic piping, some of which is 2 m thick.

Communications Management and Risk Analyses

In order to implement prompt communications management provisions have been made, such as electronic document interchange, daily meetings, video and telephone conferences and regular site meetings have been made.

Risk analyses were conducted on a continuous basis during the RFQ phase and on project kick-off in addition to the normal risk assessment processes at Uhde. This served to minimize the impact of the various problems during the course of the project.

Effective Schedule

Scheduling was faced with a particular challenge in this project. Overall, the scheduling tasks were carried out at four main locations with different partners. In addition to sheer distance between the locations in India, Egypt and Germany, it was also necessary to take account of the cultural aspects, standard practices and concepts within the schedule. To this end, detailed project execution methods were developed with the partners and successfully implemented. In excess of 7,500 engineering and procurement activities were kept up to date at all times by the international ThyssenKrupp Uhde Team, and the results were drawn upon for project control. Highest priority was given to the primary objective of servicing the interface with the construction site in Algeria on schedule. An interface schedule with more than 800 agreed dates was drawn up for the handovers from EP to Construction and from Construction to Commissioning alone, and this was updated at regular, short intervals. A similarly high amount of effort was invested in scheduling during the commissioning phase in order to identify bottlenecks at an early stage and to take every opportunity to expedite the process.

Security Concepts

So as to ensure that work on the construction site would progress as smoothly as possible, important security aspects were also taken into consideration during the contractual negotiations. The customer Sorfert, for example, is responsible for protecting the construction site and for arranging police escorts, which are required for all trips undertaken by foreigners.

An extensive security concept has been drawn up in consultation with Human Resources, the HSE/Security Department and with specialists from the ThyssenKrupp Group in order to guarantee the security of employees in the host country. This concept is based on a security survey which was conducted by an international security consultant in the host country and is regularly updated.

The concept essentially involves the following measures:

- Pre-arrival training for all persons travelling to the construction site
- Security briefing following arrival in the host country
- Preparation and updating of emergency and evacuation procedures
- Establishing alarm chains and testing them regularly
- Safety training for all Uhde drivers
- Definition of minimum standards in accommodation for personnel
- Security and medical audits

Compliance with security measures is checked on an ongoing basis, logged and, where necessary, adapted to reflect the current situation. Support in particular situations is ensured through a 24–hour on-call service.

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SABIC and Shell progress on plans for Sadaf expansion Saudi Basic Industries Corporation (SABIC) and Shell are progressing plans for the expansion of various projects at the Saudi Petrochemical Company (Sadaf). Both parties are developing a full range of polyols (a polyurethane building block) and styrene monomer propylene oxide (SMPO) plants at the existing Sadaf site, which is located in the Al Jubail industrial zone on Saudi Arabia's eastern coast. SABIC and Shell will jointly conduct the necessary studies to implement the project.

The proposed full range of polyols and SMPO plants would be the first of their kind in the Middle East. The assets would employ Shell's proprietary polyols and SMPO technologies to produce chemical building blocks for the polyurethanes industry and petrochemicals sector in the Middle East and beyond.

Air Liquide Major Licensor for Petrobras GTC Complex Air Liquide is further expanding its footprint in Brazil, establishing a new licensing agreement with Petrobras in conjunction with its recently awarded contract to Foster Wheeler for a world-scale grassroots gas-to-chemicals (GTC) complex in Linhares, Espirito Santo State, South-East Brazil, called Complexo Gás-Químico.

Air Liquide is the licensor for the Integrated Unit - the complex's largest and most integral unit -- which will produce syngas, methanol, ammonia, power and steam. The French group will also furnish fully integrated Basic Engineering Design (BED) and Engineering Services during the execution of the Front End Engineering Design (FEED) as well as technical assistance during the Engineering, Procurement & Construction (EPC) phase through start-up of the complex. The BED/FEED phase is scheduled for completion at the end of 2013.

The complex is expected to produce in excess of one million tons per year of ammonia and urea fertilizers, methanol, acetic acid, plus formic acid and melamine, helping to reduce Brazil's imports of these products.

Capacity expansion at Shell's petrochemical complex in Singapore Shell has taken a final investment decision to debottleneck its Singapore ethylene cracker on Pulau Bukom (Bukom Island). This is expected to increase the capacity of olefins and aromatics by more than 20%. Engineering work for the debottlenecking will take place during the next maintenance turn-around of the cracker. The ethylene cracker opened in March 2010 and is a major component of the Shell Eastern Petrochemicals Complex (SEPC) project, Shell's largest petrochemicals investment. It is integrated with Shell's refinery and with its world-scale mono-ethylene glycol plant on nearby Jurong Island.

Eni refinery to use Honeywell's UOP/Eni Ecofining process technology Eni will produce renewable diesel using Honeywell's UOP/Eni Ecofining process at its facility in Venice, Italy. Eni will retrofit existing equipment at its facility, currently being used to produce petroleum-based diesel, to produce renewable diesel.

The UOP/Eni Ecofining process produces a renewable diesel fuel, which is a drop-in replacement for traditional diesel. Eni will produce more than 100 million gallons per year of renewable diesel at its Venice facility beginning in 2014. In addition to technology licensing, Honeywell's UOP and its affiliates will provide basic engineering, specialty equipment and training for the project.

Honeywell's UOP and Eni jointly developed the UOP/Eni Ecofining process, which uses hydroprocessing technology to convert non-edible natural oils and animal fats to a fully fungible renewable diesel.

Oxea plans further expansion projects in Texas plant Following the capacity increase of its syngas production facility in Bay City, Texas, USA, Oxea is in the last stages of completion of a feasibility study of additional downstream plant expansion projects. The project is examining various scenarios to boost the plant's capacities, as well as the further optimization of Oxea's product portfolio at the site. The study is scheduled to be completed during the fourth quarter 2012. Oxea's Bay City plant is a large world-scale facility for oxo chemicals such as oxo-alcohols, carboxylic acids and acetate esters.

BASF building €150 million emissions catalyst plant in Poland BASF said it will invest a total of €150 million in a new emissions control catalyst plant in the Sroda Slaska special economic zone near Wroclaw, Poland. The first €90 million stage of the facility, which BASF said is its largest in Europe, is due on stream in the first quarter of 2014. When all 10 of the planned light-duty and heavy-duty production lines are in operation in 2016, the site is expected to employ more than 400 people. At the same time, BASF is modernizing and expanding its emissions catalyst plant at Nienburg, Germany.

Sinopec to boost petrochemicals capacity Sinopec, will boost refining capacity at its Yangzi Petrochemical unit by more than half to 250,000 barrels per day (b/d) in mid-2014. Asia's largest refiner is expected to finish building a 160,000-b/d crude processing unit by the end of 2013 and put it on stream in mid-2014, Ma Qiulin, chairman and president of Sinopec Yangzi Petrochemical, told Reuters on the sidelines of the Communist Party Congress. But total refining capacity will only rise to about 250,000 b/d, from 160,000 b/d now, because an old 70,000-b/d crude unit will be shut down, Ma said.

Yangzi, located in the eastern province of Jiangsu on the bank of the Yangtze river, is also building a new 2-million t/y catalytic cracking (FCC) unit, and plans to eliminate an old 800,000-t/y FCC unit, he said.

The company will be able to produce between 6.5 million and 6.6 million tons of oil products, including gasoline, kerosene and diesel, after the expansion, nearly double the 3.5 million tons now, Ma said.

German Engineering Contractors Have Risks Well Under Control

German process plant engineering firms face a stiff wind of competition from firms in other countries that have access to cheaper labor, lower procurement costs and enjoy more support from their national governments. Based in expensive Germany, they must compete on the merits of their well-respected technology.

This is the mantra recited by German and many other European contractors for many for years, but with risks increasing, the German Engineering Federation VDMA has decided to evaluate how well its companies deal with these challenges. A study by consultants Management Engineers, commissioned by VDMA, recently took the industry's pulse on this question, for the second time in two years.

Competition for large engineering projects has increased enormously over the past three years, 92% of a selected 160 top managers of Germany- and Europe-based plant manufacturers interviewed for the latest survey asserted. Almost all (97%) believed that competition would continue increasing over the next five years.

Chinese Competitors a Thorn in Europe's Side

Chinese competitors, who have been a thorn in the Europeans' side for a number of years, are still seen as the most potent challengers, now and in the foreseeable future, while a new Asian competitor – South Korea – is emerging strongly. If only a little more than half of the engineering firm managers perceived this increasingly active country as a threat to their business in 2011, the number who held this viewpoint swelled to 83% in 2012.

Literally the bottom line is that the stiffening head wind is pressuring the balance sheets of German engineering contractors more and more. The sums invested in bidding are reaping smaller gains. While the hit rate – the ratio of submitted bids and contracts won – is expected to sink from 33% in 2009 to 27% in 2017, average bidding costs are expected to rise by about a third. Beyond international competition, this is also because the value of current projects is about 25% lower than in boom years 2007 and 2008, the consultants found.


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Project Risk Management Means Savings

To help minimize risks, engineering firm managers who participated in the 2012 study concluded overwhelmingly that increased attention to risk management can translate into cost savings and within three years improve project margins by 10-20%. Management Engineers' contracting expert Marc Artmeyer confirmed the conventional wisdom of the German branch: Contractors with special competence in technology and detail engineering have the least to worry about as regards competition and are also better able to deal with risks.

Completing projects on time is undoubtedly the biggest risk plant contractors face, along with price calculation. The survey found that Germany's large contractors already have technical risks, those associated with project management and even insurable financial risks well under control. Here, Management Engineers noted that country risks are increasing, not least because of the wider international involvement of VDMA member companies.

Transparency is Essential Element

Most German engineering firms already actively deal with risk management, Artmeyer said, while stressing that "a maximum of transparency" in the development of cost and progress of equipment supply is key. Along with quality of personnel and excellence of technology, attention to legal security is also deemed essential. As one interviewed manager pointed out, firms can be more flexible in pricing than in binding questions of contract.

Summing up the results, Thyssen Krupp-Uhde's Helmut Knauthe, spokesman for the large plant contractors' grouping within VDMA, said: "Good project management, coupled with technological excellence, is the prerequisite for German contractors to remain competitive and further improve their competitiveness."

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BASF Opens Battery Materials Production Plant in Ohio

BASF opened its new cathode materials production plant in Elyria, Ohio, USA. The materials manufactured at the plant will be used by BASF's customers to produce advanced lithium-ion batteries. Construction of the plant required an investment of more than $50 million, which was supported by a $24.6 million grant from the U.S. Department of Energy. In addition, BASF was selected as one of only two licensed suppliers of Argonne National Laboratory patented Nickel-Cobalt-Manganese (NCM) cathode materials, which employ a unique combination of lithium and manganese-rich mixed metal oxides. The materials being produced in Elyria leverage this advanced NCM chemistry, which is particularly well suited to the production of lithium-ion batteries for automotive and other high-end applications. The operation in Elyria is supported by BASF battery materials research laboratories in nearby Beachwood, Ohio, and at the company's headquarters in Ludwigshafen, Germany. ■

Evonik to Produce Personal and Household Care Ingredients in Brazil

German chemical group Evonik plans to begin producing 50,000 metric tons per year of ingredients for personal and household care products in Brazil's Sao Paulo state in 2014. The portfolio includes specialty surfactants, conditioning agents, emollients, emulsifiers, thickeners and fabric softeners, which are currently supplied from the group's service and logistics center at Guarulhos. The double-digit euro million euro investment will create 80 jobs.

Weber Porto, regional president for South America, said Evonik not only has increased its sales force in the region in the last two years. It has also set up an application lab to fulfil its customers' technical support requirements. To complement existing facilities on three continents, the group is building a new plant for cosmetics and household consumer goods in Shangai to supply the Asian market. ■

DSM Lifts Capacity for Solar Coatings

Citing growing demand from the solar industry, DSM has announced that it will increase output of its KhepriCoat anti-reflective coatings. The new capacity is expected to be on stream by the end of this year at the company's Chemelot chemical park in Geleen, The Netherlands.

Developed by the DSM Innovation Center, KhepriCoat is an anti-reflective glass coating applied in a thin layer of 100-150 nm to the cover glass of solar modules to strong reduce the reflection of sunlight, thus increasing energy output by as much as 4%. European Photovoltaic Industry Association (EPIA) expects 100 GW of photovoltaic capacity to be installed by the end of 2012. ■

EDL Awarded Plant Revamp Contract by German Total Refinery

Total Raffinerie Mitteldeutschland, Leuna, Germany and EDL Anlagenbau Gesellschaft, Leipzig, Germany signed a contract on the revamp of the FCC gas processing plant, alkylation plant and reactor conversion of the FCC plant at Leuna. EDL's scope for the three projects includes the detail engineering, procurement support, project management and commissioning support.

The aim of the FCC gas processing plant revamp and the FCC reactor conversion is to increase the yield structure. The revamp of the alkylation plant is intended to produce more alkylate which is a key component of gasoline to increase the octane number (anti-knock properties of gasoline engines).

The services will be rendered on the basis of the basic engineering already provided by EDL and completed in 2014 within the framework of a plant shutdown. ■

Higher Mass Transfer Performance

Improvement of Wettability of Plastic Packings During the Operational Time

Technology – The design of air/water counterflow mass transfer devices with high specific surface polypropylene packings, used to enlarge the transfer surface, is frequently based on the pure-component data of the involved components of water, air and polypropylene. The low surface energies of nonpolar thermoplastic material, in particular, indicate bad wetting properties. A vast number of fundamental calculation methods use the critical interfacial tension as an unchangeable material property to determine the wetted surface. As shown below, the values determined under laboratory conditions are distinctly different in practice.

One of the most important requirements of random or structured mass transfer beds is to provide an as large as possible effective surface for the mass transfer. Among other aspects, the effective surface depends on the interfacial tension between the fluid and the material properties of the surface of the transfer elements. The influence of the interfacial tension on the effective surface has been thoroughly analyzed, and corresponding empirical equations have been set up. It is known that water, in particular, because of its high surface tension wets plastic surfaces very badly. In some fundamental works this fact is sufficiently taken into account by material properties. For film type mass transfer elements in plastic it leads to a calculated degree of wettability of less than 50 % of the possible geometrical surface at usual flow rates.

One factor, which is rarely taken into consideration in tests, is the behavior of the interfacial tension over time. After a certain period of time, the wetting properties distinctly improve, thus also improving the degree of wettability. The wetted surface is almost doubled even in the case of clean water, such as drinking water.

Due to its chemical properties, the basic materials of film type packings have certain surface energies. In combination with the surface tension of the fluid applied, a contact angle is produced which is decisive for the wettability of the system.

The surface energy increases with increasing polarity of the surface. In the case of polypropylene, this surface energy is relatively low (30 mN/m (Lake, 2009)). This leads to the fact that media, such as water, which has a high surface energy, does not wet these materials well in the beginning, but forms trickles or drops.

There are, however, processes which cause a change of the surface energy. Apart from technically complex processes, such as a plasma treatment or fluorination, a longer contact with ion-containing water is sufficient to sustainably improve the wettability of polypropylene. In order to demonstrate this effect, foils were laid into an open container with water having different ion concentrations. The test media were:

- tap water with an electrical conductivity of 416 µS/cm
- de-ionized water with an addition of 0.32 g/l of common salt (0.0055 molar solution)
- de-ionized water (in accordance with German standard VDE 0510)

In the process the foils were completely in contact with the water; there was no additional agitation of the water. The foil was taken out of the water at regular intervals and dried upright in air. Subsequently a test ink set (following German standard DIN 53364), which is graduated between 30 and 72 mN/m in steps of 2 m/Nm, is used to determine the surface energy of the foil.

Fig. 1 reveals the results of these tests. In the case of tap water, a very high surface energy is already achieved after 150 hours. In the test with a sodium chloride solution, this process takes only a little longer. In the case of distilled water, the process is slowed down considerably, but at the same time an increase of the surface energy can be measured over time. This shows that the surface energy of a material, which is in continuous contact with aqueous solutions increases in any case, even the open contact of the de-ion with the atmosphere renders this effect.

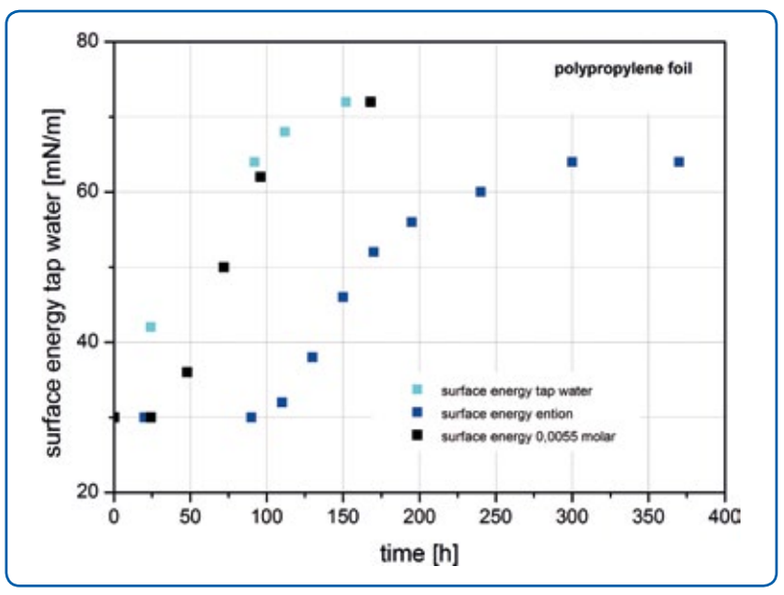

Fig. 1: Change of the surface energy of polypropylene surfaces.

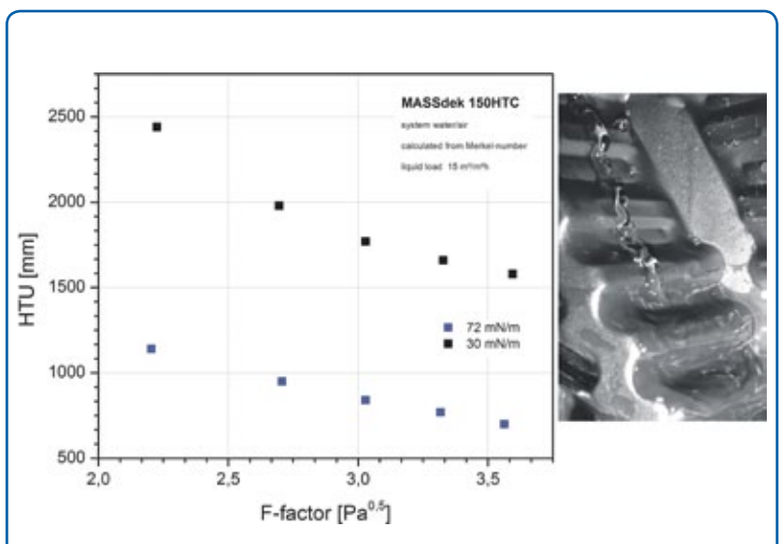

Fig. 2: Comparison of the HTU value in case of different surface energy at an irrigation density of 15 m^3/m^2h.

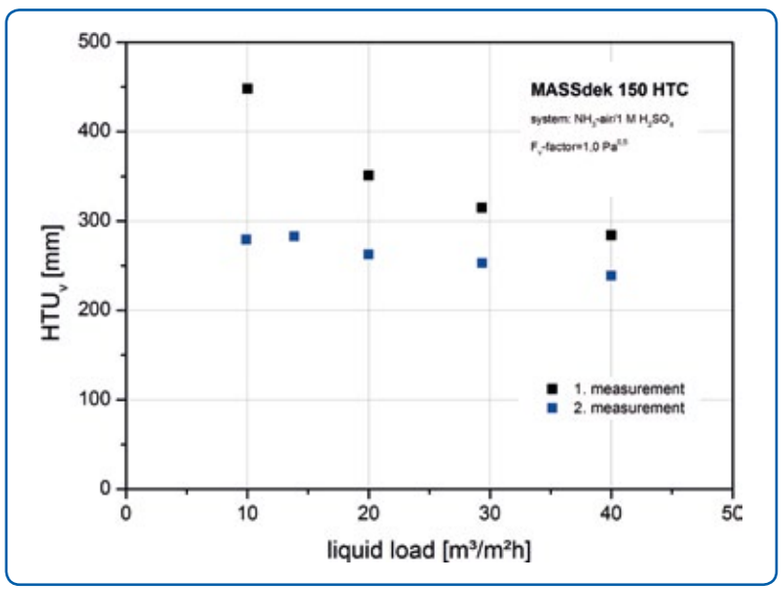

Fig. 3: Comparison of the HTU value in the case of successive measurement series of Massdek 150 HTC.

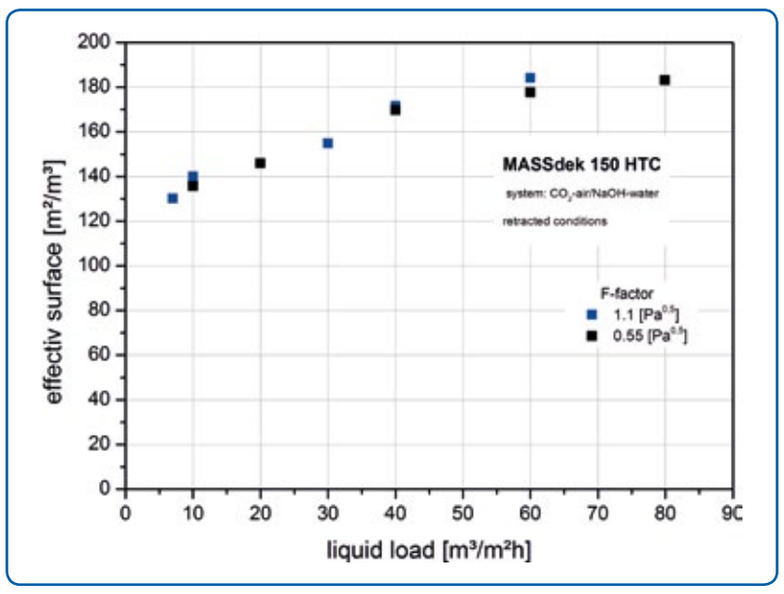

Fig. 4: Effective surface depending on the irrigation density.

The wettability of a structured packing has a significant influence on the effective surface and performance, in particular at low irrigation densities. In the case of lower surface energy, distinctly less surface can be used due to the formation of trickles than in case of a higher surface energy so that the performance measurements on new fills (30 m/N/m) and on "established" fills (72 mN//m) may differ considerably.

As an example, GEA 2H Water Technologies has carried out heat exchange measurements in countercurrent flow (water/air system) on packing type Massdek 150 HTC, in which the results were converted into HTU values by dividing the height by Merkel's coefficient.

Shown here are the two extremes of surface energy for identical liquid loads of 15 m/h. The HTU value of a new packing with low surface energy in this case is about twice as high as the HTU value of a very well wetted and used packing, as can be seen. Similar results in plastic packing can also be found in the literature (Reuter & Kröger, 2005).

On the right-hand side of Fig. 2, there is an optical clarification of the phenomenon: The upper half of the foil has the initial lower surface energy, whereas the lower half has been correspondingly pretreated and reveals a distinctly higher surface energy. As can be seen, the trickle turns into a thin film immediately at the transition, when the used area of the foil is reached.

The same tendency can be observed in mass transfer tests using the same type of packing from Envimac in the NH3 air system (cf. Fig. (3)).

The packing in the third measurement is in a used condition, whereas no sufficient surface energy had developed during the first measurement. Again there are distinct differences in the HTU value. The change in the HTU values was achieved exclusively by the continuation of the measurements in the same test column.

For this reason, it is very important to measure the performance of a structured plastic packing and the connected effective surface only a used condition with improved surface energy, not in a new condition. As shown, this condition develops in processes with aqueous systems in the course of operation. For the Massdek 150 HTC packing (geometric surface of 150 m^2/m^3), the effective surface of the filler was determined for used packing on the CO_2 air/NaOH water system (Duss, Meierhofer, & Nutter, 2001).

The dependence of the effective surface on the irrigation density is seen in Fig. 4. Given a used film type packing, a high effective surface is obtained, which in case of higher irrigation densities (at an F factor of 1.1 Pa0,5 as from an irrigation density of around 20 m^3/m^2h) may even exceed the geometric surface. With an increasing irrigation density the foil develops a higher waviness (Al-Sibai, 2004), which produces this additional surface.

Conclusion

The typical system effective surfaces develop only after a sufficient run-up time. Measurements in test columns as well as computational models have to be considered in this respect.

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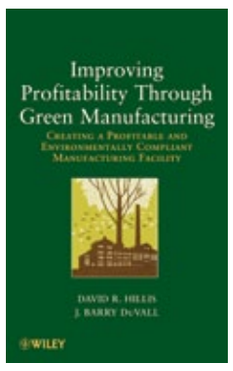
Improving Profitability Through Green Manufacturing

Manufacturers can be green and highly profitable at the same time. Profits do not have to be sacrificed to environmental responsibility, or vice versa. Following this book's tested and proven approach, readers discover how to create and operate manufacturing facilities that are highly profitable while meeting or exceeding the environmental standards of their local community, state, and federal governments. The authors' approach is broad in scope, setting forth the roles and responsibilities of organizational functions such as marketing, product design, manufacturing technology, management, and human resources.



The book begins with an overview explaining why profitability and green manufacturing must be viewed as a single objective.

Next, the book becomes a "how to" guide to creating and maintaining an environmentally compliant and profitable manufacturing operation, with chapters covering:

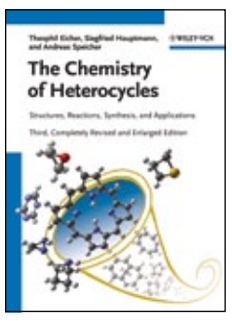
- Manufacturing, waste, and regeneration; Building a decision-making model; Environmental regulation, standards, and profitability; Tools used to improve manufacturing operations; Apply ing the profitable and compliant process chart.

The final chapter is dedicated to a step-by-step approach in the application and use of the profitable and compliant process chart, a core working tool discussed in the book. In this chapter, several actual manufacturing applications, along with their worksheets, are presented to illustrate how this approach can minimize resources and waste. Armed with this comprehensive systems approach, readers will no longer view profitability and green manufacturing as two opposing goals. Instead, they'll have the tools and knowledge needed to create and maintain a manufacturing operation that is both profitable and green.

▶ Improving Profitability Through Green Manufacturing
David R. Hillis, J. Barry DuVall
John Wiley & Sons, 2012
Price: € 53.90
ISBN 13 978-1-118-11125-3

The Chemistry of Heterocycles

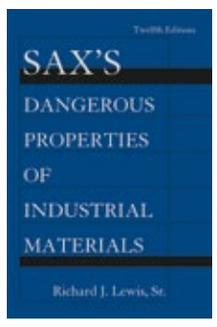
This classical textbook has been completely revised, updated and filled with more than 40% new content. The approved ordering system according to the ring size of the heterocycles has been retained, while the important chapter on "Problems and their Solutions" has been almost completely renewed by introduction of up-to-date scientific exercises, resulting in a great tool for self-testing and exams. The chapter on nomenclature and a helpful index of name reactions was maintained. With approximately 1,000 new literature citations, this book remains a brilliant gateway to modern heterocyclic science for master and graduate students, as well as PhDs and researchers entering the field.



▶ The Chemistry of Heterocycles
Theophil Eicher / Siegfried Hauptmann / Andreas Speicher
Wiley-VCH, Weinheim, 2012
Price: € 69.90
ISBN13 978-3-527-32747-8

Sax's Dangerous Properties

Since its publication in the 1950s, this important resource is considered the bible by those who need to evaluate the potential hazard of substances used in commerce. Now in its twelfth edition, Sax's Dangerous Properties provides extensive data on approximately 28,000 substances, with the addition of nearly 2,400 new substances. Each entry includes a DPIM code, hazard rating, entry name, CAS number, DOT number, molecular formula, molecular weight, line structural formula, description of material and physical properties, and synonyms. The book also contains Immediately Dangerous to Life or Health (IDLH) levels for approximately 1,000 chemicals.



▶ Sax's Dangerous Properties of Industrial Materials
Richard J. Lewis
John Wiley & Sons, 2012
Price: €510,-- until Dec 31, € 600,-- thereafter
ISBN 13 978-0-470-62325-1

Informex USA 2013, Feb. 19 – 22, Anaheim, USA
The Informex USA 2013 expects about 500 exhibitors and more than 4,000 attendees. The event promises to offer attendees a direct view of what is happening across the fine, specialty & custom chemical marketplace. With this focus, there is exceptional vertical insight into many markets including textiles, electronics, food and beverage, fuel and lubricants, soaps and detergents, water treatment, flavors and fragrances, adhesives and resins, paint and coatings, cosmetics and personal care, biopharmaceuticals, plastics and polymers, organic chemicals, agrochemicals, and pharmaceuticals. The exhibition format is complemented by a comprehensive conference program.

▶ www.informex.com

AchemAsia, May 13 – 16 2013 Beijing, China
The upcoming AchemAsia 2013, 9th international exhibition and conference on Chemical Engineering and Biotechnology, is the communication hub for suppliers of the process industries. Visitors and exhibitors will benefit from the chances that China continues to offer. To date, no other economy in the world comes close to China's modernization pace and economic drive. Courageous yet balanced economic stimulus programs keep the Chinese economy on track, accompanied by a remarkable independence from the economic situation of the rest of the world. Fostered by the current Five-Year Plan, the demand for innovative solutions in the process industries is probably higher than ever.

▶ www.achemasia.com


Perry Stuckey


Theresa Lee


David Golden

Theresa K. Lee, Eastman Chemical's senior vice president, chief legal and administrative officer will retire On Jan. 1, 2013. Lee's responsibilities will be assumed by **David A. Golden** and **Perry Stuckey**, III. Golden, who joined Eastman in 1995 and currently serves as vice president, associate general counsel and corporate secretary will become senior vice president, chief legal officer, and corporate secretary, with responsibility for the company's legal, health, safety, environment and security, and government and community relations organizations. Stuckey, who joined Eastman in 2011 and currently is vice president, global human resources, will become senior vice president, chief human resources officer.


Dr. Christoph Schlünken


Dr. Wolfgang Schütt


Dr. Guido Forstbach


Dr. Roland Peter

German specialty chemicals group Altana made a change in the top positions of its four divisions. As of November 1, 2012, the presidents of the company's divisions have each taken over responsibility for another division. **Dr. Roland Peter**, previously president of BYK Additives & Instruments, has taken over the management of Actega Coatings & Sealants from **Dr. Guido Forstbach**, who is now heading Elantas Electrical Insulation. The latter division's previous president, **Dr. Wolfgang Schütt** has assumed the management of Eckart Effect Pigments, whose former president **Dr. Christoph Schlünken** took over the management of BYK. With this rotation, Altana aims to promote the transfer of know-how within the Group and further strengthen its innovative capacity.
„This realignment of the divisions' presidents will provide Altana with new growth prospects and help further enhance the use of potential synergies," said Dr. Matthias L. Wolfgruber, CEO of Altana.


Dr. Wolfgang Hapke

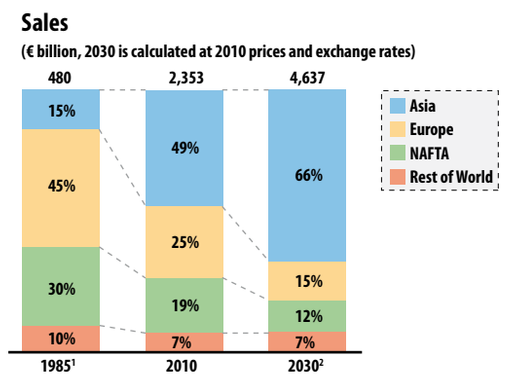
Dr. Wolfgang Hapke will become President of the Human Resources division effective March 1, 2013. He succeeds Hans-Carsten Hansen. Dr. Hapke (56) studied economic education, physical education and economics at the University of Goettingen, Germany where he received a doctorate in business administration. He joined BASF in 1989 in the Raw Material Purchasing division and has been President of the Performance Polymers division since 2010.

Puck van Doorn has joined AkzoNobel's Surface Chemistry EMEIA group as Marketing Project Manager, Personal Care Applications. Previously, she was a Marketing Manager for AkzoNobel's Industrial Chemicals Business Unit, with additional responsibility for Logistics & Customer Services. Prior to joining AkzoNobel in 2008, she worked in the Netherlands in marketing for L'Oreal.

The European Chemical Industry 2030

The core of the chemical industry is shifting to Asia

Fig. 1

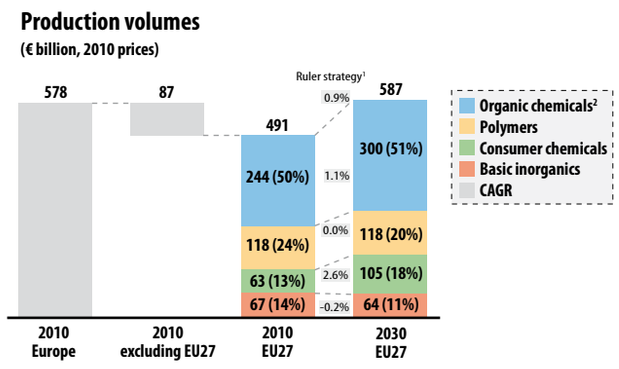


1) 1985 assumed exchange rate is $1.39/€.
2) Assumes the following growth rates 2010-2030: Asia 5%, Europe 1%, NAFTA 1.2%, ROW 3%.

Source: Cefic, A.T. Kearney analysis © CHEManager Europe

Chemicals production in Europe is expected to grow moderately

Fig. 2

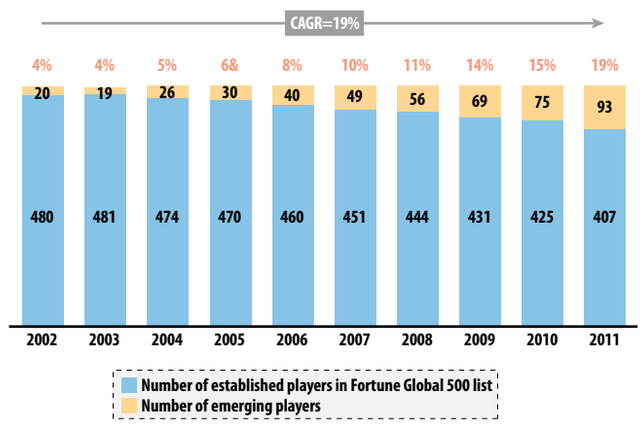


1) Ruler strategy production volume CAGR 2000-2010 extrapolated to 2030; 0.9% is expected ruler strategy CAGR for EU27 2010-2030.
2) Petrochemicals and specialty chemicals included in organic chemicals.

Source: Cefic, A.T. Kearney analysis © CHEManager Europe

Emerging players are increasingly making the Fortune Global 500 list

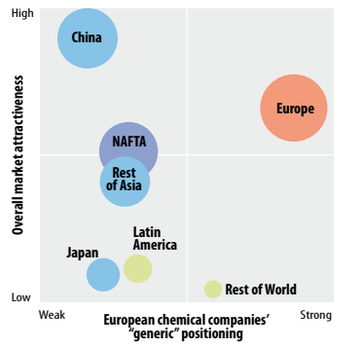
Fig. 3



Source: A.T. Kearney analysis © CHEManager Europe

European companies have growth opportunities in overseas markets

Fig. 4



* "Overall market attractiveness" is defined by its size (2010) and projected growth (2010-2030), price levels, and ease of doing business. European chemical companies' "generic" positioning is defined by market share, customer access, and profitability.

Source: A.T. Kearney analysis © CHEManager Europe

Industry Shift to Asia

As the global economy gravitates eastward, at least half of the top 10 chemical companies in the world will be Asian or Middle Eastern by 2030 (Fig. 1), according to an A.T. Kearney analysis titled "Chemical Industry Vision 2030: A European Perspective" (c.f. page 6). As much as 66% of global chemical sales in 2030 will be in Asia, according to current growth patterns. The rise of emerging players, especially in Asia and in the Middle East, has led to a deconsolidation of the chemical industry. Until 2030, A.T. Kearney expects 5 to 8 of the global Top 10 chemical companies to come from these two regions, mostly from China.

Moderate Growth in Europe

From a manufacturing perspective, longevity in the chemical industry means sudden capacity shifts are unlikely. Chemicals are largely used for basic needs, such as construction, clothing, and agriculture. Specialty products such as batteries and nanotech will dramatically change specific value chains but will not change the overall demand picture because the combined volumes are small compared to increased general consumption in Asia. Production in Europe is expected to grow moderately with only consumer chemicals in marginally higher demand (Fig. 2).

Competitive Environment

By 2030, three forces will drive the global competitive environment: changes in competition, increasing economic volatility, and value networks moving east. In an effort to cater to the enormous Asian demand, customer industries are shifting operations to the East. Key end markets are all set to surge in Asia, driving growing local demand for chemicals. Domestic players that have taken advantage of Asian economic growth are now increasingly making the Fortune 500 list (Fig. 3). This is a serious challenge for incumbents, as the emerging players surpassed companies from established economies at a growth rate of 19% from 2002 to 2011.

Opportunities in Overseas Markets

Preparing for the future, chemical companies worldwide are wasting no time crafting their regional positioning strategies for 2030. Obtaining an accurate assessment of market attractiveness and size of their current footprint in each region is a good place to start. The current competitive environment suggests that European companies are well positioned in their home markets but have weak positions in overseas markets. As a result, significant opportunities exist overseas (Fig. 4).

Participating in Asian Growth

European producers are most interested in China for its potential and growth rates. NAFTA countries remain fairly attractive as a large, homogenous market where competition is fair; but, as in Europe, growth is slow. The rest of Asia (ROA) is a relatively fragmented and highly competitive market that is slightly less appealing than the NAFTA region. However, similar to China, ROA continues to be interesting because it has some of the largest and fastest-growing economies, including India, South Korea, Indonesia, Singapore, Malaysia, and Vietnam. Finally, Latin America, Japan, and the rest of the world (ROW) are at the bottom of the list for European producers. These markets do not have the size or growth potential of the others.

Port of Rotterdam Holds On to Growth

Cargo throughput in the Port of Rotterdam increased by 1.7% to 333 million tonnes during the first nine months of 2012. Growth can be attributed completely to exports: incoming cargo was stable, while outgoing cargo rose 7%. Throughput of crude oil (+6%), mineral oil products (+13%), other liquid bulk (+5%), containers (+2%) and roll on/roll off (+2%) increased. Less agribulk (-15%), iron ore and scrap (-16%), coal (-5%), other dry bulk (-8%), LNG (-6%) and other general cargo (-24%) was loaded and unloaded. Dry bulk handling decreased by 11% to 58 million tonnes and liquid bulk handling increased by 9% to 161 million tonnes.

Hans Smits, CEO of the Port of Rotterdam Authority said: 'Throughput in the port enjoyed a good third quarter mainly due to the oil sector. Growth weakened during the third quarter due to declining world trade and while the corresponding quarter of 2011 was relatively strong. Across the entire year, we still expect a small growth of approximately 1%". ■

Colours of Sustainability – Brands are becoming more and more eco-conscious in their choice of materials and suppliers; a positive development, which will ensure an even closer look at supply chains. In response to this challenge, a leading group of companies including sportswear giants and major retailers made pledges to work together over specified time periods with the so-called "Joint Roadmap Toward Zero Discharge of Hazardous Chemicals". Clariant's Advanced Denim technology helps to reduce water consumption during the manufacture and dyeing of jeans by as much as 92%, while 63% of the usual cotton waste is avoided and around 30% can be saved in energy costs too compared to a traditional denim process.

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