CHEManager EUROPE

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THE NEWSPAPER FOR THE CHEMICAL AND LIFE SCIENCE MARKETS

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Newsflow

Merck KGaA has qualified for inclusion in FTSE4Good, a widely used responsible investment index. FTSE4Good, which is published annually by The Financial Times and London Stock Exchange, evaluates the social responsibility of corporate entities and helps investors to make investment decisions. To be included, companies must meet demanding criteria covering areas such as environmental protection, safety, operating procedures and sustainable company management.

Kemira Oyj has completed the accelerated book-built offering of its entire holding of shares in Tikkurila Oyj. Kemira sold 6,175,155 Tikkurila shares, corresponding to 14% of the total number of shares and votes in Tikkurila. The sale price in the placing was €15.80 per share and the gross sales proceeds of the placing amounted to approximately €97.6 million.

The Swiss-based Purbond is now owned 100% by Henkel. Purbond was founded in 2003 as a JV between Collano and the National Starch Group. In 2008, Henkel acquired the adhesives business from National Starch, including half of the shares in Purbond. By purchasing the remaining 50% from Collano, Henkel has now become the sole owner of the PUR adhesives specialist.

'Saints And Sinners'

How the EFCG is Pushing its Agenda Forward During Complex Times

Full Agenda – Tony Scott credits Hovione CEO Guy Villax with coining the phrase, "saints and sinners" at the launch of EFCG during CPhI in Brussels in 2004 when referring to the notoriously uneven playing field in the world of API and excipient manufacture . The European Fine Chemicals Group – better known as the EFCG – has become a household name over the last six years when it comes to pushing for better regulation of APIs and excipients. With important issues on many different fronts, ranging from Reach regulation to generic user fees in the U.S., it's all the better that Roger LaForce, general manager of Fabbrica Italiana Sintetici (F.I.S.) was recently elected as the EFCG Pharmaceuticals Business Committee chair.

The position had been vacant since the untimely death of Merck's Arnulf Heubner in November 2009, and while "everyone pulled together" as EFCG Adviser Scott says, the breadth of topics on the group's agenda have made it necessary to have a leader on this committee. Brandi Schuster recently talked to LaForce and Scott about a whole host of EFCG issues – and what sets their member companies apart from the "sinners."

CHEManager Europe: A hot topic now is the European Chemical Agency's redefining of intermediates under Reach and also the redefinition of what constitutes strict control. How has the EFCG been involved with this?

T. Scott: Frankly, the industry feels let down by the authorities, who consulted with us on this topic for years. Reach recognizes the huge numbers of intermediates and their very low potential to affect the environment and the consumer by allowing a reduced registration package. ECHA have manipulated the guidance on what constitutes an intermediate, seemingly to reduce the number of genuine intermediates qualifying for the reduced requirements, which is contrary to the clear intent of the original legislation.

Our examples of how strictly controlled conditions for of intermediates is done in reality were completely ignored by the ECHA. Our normal techniques provide strictly controlled conditions for intermediates, meet environmental and OSH regulations and protect plant workers, consumers and the environment. ECHA wants to replace them with full containment of the operating process, which is effectively impossible with flexible, low volume batch processing of intermediates. Conceivably, with very high, uneconomic investment full containment might be achieved but the real choices lay with very expensive, animal killing testing for full Registration or a simpler solution, move the whole supply chain out of Europe. This guidance also came out after the registration deadline on Nov. 30, which means companies who aren't compliant now have to file a full dossier, which will result in more unnecessary animal testing, something Reach was supposed to avoid.

ECHA has removed all flexibility within the implementation of strictly controlled conditions, which can only push the manufacture of intermediates and the supply chains that use them out of Europe if their guidance is followed. This is not law, it's merely guidance and ECHA does not have the authority to tell the member states how to interpret the legislation. They've also removed any risk-based assessment, which means someone with a harmless chemical has to handle it in the same way they would handle a most potentially harmful intermediate. This really is a matter of survival and jobs; and some of our member companies will be out of business if this is implemented as is.

Roger, would you consider this to be the biggest issue on the EFCG plate right now?

R. LaForce: I would say the biggest issue is the survival of the European fine chemical industry because of this. We have been heavily involved with the workability of the legislation as well as the enforcement, and will continue to be.

Another considerable task for the EFCG is its work to ensure a level playing field for manufacturers of excipients and APIs in Europe in light of poor-quality imports, and a lot has been achieved. What else is on the agenda now?

T. Scott: For example, we are currently working with the SOCMA Bulk Pharmaceutical Task Force and the U.S. Food and Drug Administration on a proposal – the generic drug user fee program – that would support the use of API site registration fees and foreign inspection fees.

Why the U.S. FDA and SOCMA, which is the Society of Chemical Manufacturers and Affiliates in the U.S.?

T. Scott: Europe represents the largest concentration of FDA inspected sites dedicated to APIs, the number of manufacturing sites being several times greater than in the U.S. The FDA actually invited input from the EFCG, and we are honored to contribute to the public enquiry.

What's the basic idea behind the proposal?

T. Scott: Companies who want to sell into the North American or European markets would have to register their company with the exact location, and then an inspection will take place. There would be a fee upfront for registration, then another fee for the inspection itself, which would sort out the "saints" from the "sinners."

This really sends the message that we've been hammering at for the last six years: We have to stop the importation of substandard APIs into the U.S. and Europe. Generic drug user fees would be a deterrent to who are exploiting the lack of controls for profit without any concern for the safety of patients.

While API regulation is obviously important, the critical voices on the lack of any kind of regulation for excipients are getting louder and louder.

R. LaForce: This is also something I've heard in my talks with companies. Even if APIs aren't perfectly regulated, they are still better off than excipients. If you look at the market value of APIs, it's huge compared to excipients. However, in terms of volume, excipients make up the majority of an entire drug. Therefore, quality standards similar to what exists for API are also crucial for excipients.

T. Scott: An excipients expert in the industry once said to me, "You think you have a problem with APIs? You ain't seen nothing yet." This convinced me and the rest of the EFCG board that something had to be done about the quality of excipients. As a response in 2007 we published a position paper on the need for the certification of excipients, and in 2008, we created what is now known as EXCIPACT, a consortium with the International Pharmaceuticals Excipient councils in both Europe and the U.S., FECC – the European Distributors trade body – and the Pharmaceutical Quality Group in the UK. We went live in March with a view to launching a non-profit company that will be responsible for excipients standard certification worldwide. I would say that we made a lot of progress on that front in a very short period of time, and we're in a good place. We're ready to go but we need to not only engage the industry, but also the stakeholders.

Tough pill to swallow? The EFCG has been working to ensure the quality of pharma products in Europe.

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There is a certain level of anxiety for some excipient makers whose products are mostly used in non-pharmaceutical applications who would then have to move to GMP production standards. What do you say to them?

T. Scott: We are looking to raise manufacturing and distribution standards and level the playing field in an area critical to patient safety using a risk-based approach. Should we change our policy to suit someone who is unwilling to raise their standards where necessary to supply the pharma market. We don't think so.

What's really at stake?

R. LaForce: Many European companies are investing in quality plants and are continuously involved in upgrading and investing in maintenance, adding new technologies. For example, if we look at how the issue of containment has evolved, not just within high potent APIs but also in general: In emerging countries, there are still plants where APIs are being made in conditions that are no longer acceptable in the U.S. and Europe. So while we're headed to having a pharma-level kind of manufacturing for chemicals, emerging countries are at least ten years behind us. That means there is still a huge gap in standards, and European companies are heavily investing in this area. However, this ends up working against us, as it gives a competitive edge to manufacturers who don't invest in this area and therefore can produce cheaper products, which are imported into Europe even though they do not meet European standards because the exporting countries don't regulate such sales – caveat emptor – and the enforcement agencies here do not have the resources to catch them. Containment levels are well regulated in the pharmaceutical sector, several systems are applied such as the one from ISPE, SafeBridge, and every large pharma company has set it's on system. It would be important to consult these systems before putting into force another one.

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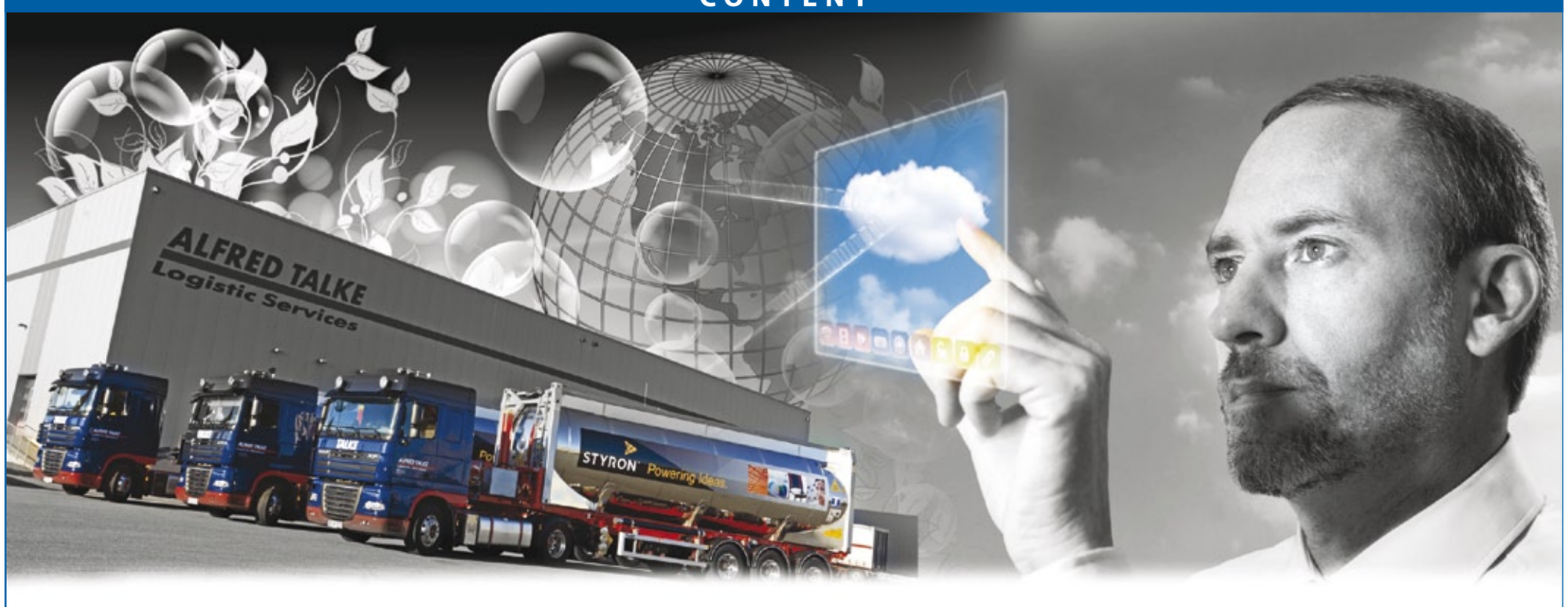
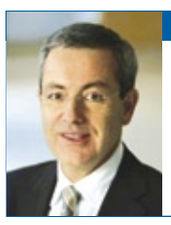


Solvay Looks to Emerging Markets with Rhodia Purchase



Jean-Pierre Clamadieu
CEO, Rhodia

Cash-rich Belgian chemicals group Solvay is betting on emerging markets exposure and specialty chemicals with a €3.4 billion ($4.8 billion) cash bid for French group Rhodia. The deal Solvay's year-long search for a takeover after it sold its drugs unit to its U.S. partner Abbott Laboratories in September 2009 for 4.5 billion. The offer of €31.60 per share for Rhodia, which has been recommended by Rhodia's board of directors, means Solvay will still have cash left over from its drugs unit sale.

The deal will significantly lift Solvay's exposure to emerging markets, increasing its percentage of sales from fast-growing economies to 40%. Rhodia is particularly strong in China and Brazil and nearly 50% of its sales came from high-growth regions in 2010.

It will also enable to Solvay tap into higher-margin specialty chemicals, a fertile area for M&A in the chemicals sector as some firms seek more profitable businesses and shift away from traditional low-margin bulk chemicals production. Solvay said it will officially launch the bid on July 4.

Global Platform

Solvay Chief Executive Christian Jourquin told reporters the two groups were complementary in terms of products and markets and the deal would reduce the cyclical nature of their business. The deal also would reduce the exposure of Solvay, which makes soda ash used in glass production and polyvinyl chloride (PVC) for plastic piping, to sluggish construction markets and see it expand in specialty chemicals.

Specialty chemicals usually offer higher margins than commoditized bulk chemicals, but also demand higher R&D costs and wages. Companies, however, can also more easily adjust the capacity and costs of specialty chemicals production.

Rhodia CEO Jean-Pierre Clamadieu will become the combined group's deputy chief executive once the offer closes and will succeed Jourquin in 2012 upon his retirement. Clamadieu said at a press conference in Paris he could not exclude a counter-offer for the company, but added this was unlikely.

Solvay said bolt-on deals were still possible, but added that nothing was planned in the immediate future. ■

Rhodia CEO will become the combined group's deputy chief executive once the offer closes and will succeed Solvay CEO Jourquin in 2012 upon his retirement.

Israel's MA Industries to Buy Herbicide from DuPont

Israel's MA Industries will acquire DuPont Crop Protection's global non-mixture diuron business, the world's biggest maker of generic agrochemicals said. Financial terms of the agreement were not disclosed.

According to the agreement, MA will receive rights, registrations and supporting regulatory data for all of DuPont's non-mixture diuron herbicides, including its industry-leading DuPont Direx and Karmex brands. The acquisition will expand the company's global product offering and broaden its market reach in North America, Brazil and Asia Pacific, MA said.

Excluding potential synergies, the acquired products are expected to generate additional annual sales of around $35 million to MA in the first year.

Diuron is the leading urea herbicide used in agricultural and industrial and vegetation management applications to control a wide variety of annual and perennial broadleaf and grassy weeds. Diuron's major markets include sugarcane, fruit, vegetables and cotton, as well as non-crop sectors.

China National Chemical Corp is in the process of buying a controlling stake in MA Industries, which is 47 % held by Israel's Koor Industries. The deal values MA at $2.4 billion. ■

British Man Jailed After Record Fake Medicine Bust

A British man was jailed for eight years for his role in supplying more than 2 million doses of fake medicines in the most serious known case of counterfeit drugs getting into the European supply chain.

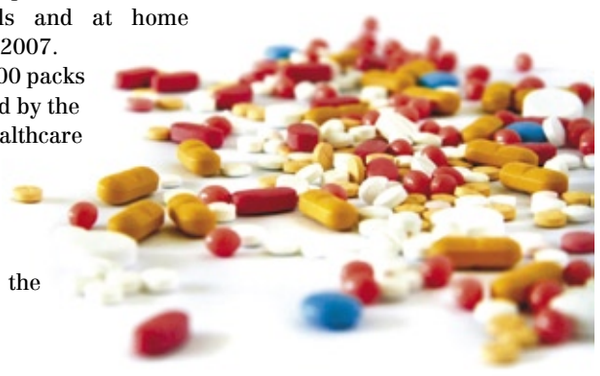
Faking prescription drugs is a lucrative and growing criminal business and Peter Gillespie, 64, was involved in a global network stretching from China to Belgium and Mauritius to supply drugs and launder money, a British court heard.

Investigators from Britain's medicines watchdog said the case was particularly alarming given the serious conditions for which the medicines were used – treating schizophrenia and heart disease and prostate cancer.

A total of 25,000 packs containing 700,000 fake doses of Eli Lilly Zyprexa, Sanofi-Aventis's Plavix and AstraZeneca's Casodex reached pharmacies and patients in care centers, hospitals and at home across Britain in 2007.

A further 47,000 packs were either seized by the Medicines and Healthcare products Regulatory Agency (MHRA) from a warehouse or recalled from the supply chain.

Four other men were acquitted in the case, the MHRA said in a statement. ■



Merck's Dutch R&D Unit to Keep Some Jobs, Change Focus

U.S. drugmaker Merck & Co., which last year said it would close three research sites in the Netherlands, recently said it would keep about half of the research and development jobs.

Merck announced plans in July to shut eight research sites in total, including three in the Netherlands, as part of a restructuring following its merger with Schering-Plough. It had said it would cut up to 15,000 jobs worldwide and save up to $3.5 billion by 2012. Employees at the Dutch unit, formerly called Organon, tried to block the closures and Merck agreed it would look at other solutions including the sale of the unit.

But in mid-February it said it had been unable to sell the bioscience unit or find an alternative solution to avoid closing down the unit.

Organon said on Thursday that Merck has now agreed to keep 486 of the 1,000 research and development jobs in the Netherlands, and to set up a new Dutch research center focused on supporting all of Merck's therapeutic areas as well as emerging economies. ■

Triton, Rhone Sole Bidders for Evonik Unit

Financial investors Triton Capital and Rhone Group remain the sole bidders for the Carbon Black unit of unlisted German chemical maker Evonik, two people familiar with the transaction told Reuters. The deal is expected to be signed soon and will probably value the unit at about €1 billion ($1.42 billion) including assumed debt, the sources also said.

Evonik and Rhone declined to comment. Triton was not immediately available for comment. ■

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Technical Marketing in the Chemical Industry

New Meaning – The transformation of the chemical industry into a market-oriented sector has changed the meaning of technical marketing. Today technical marketing has a leverage effect on most areas in the process chain. In most cases, innovation, cost and capital efficiency can be enormously increased by subjecting this area to basic optimization.

Uwe Nickel
Arthur D. Little

The chemical industry has been changing for many years: despite an excellent year in 2010 and a positive outlook for 2011, diverse structural challenges remain, regardless of the many change initiatives in the past two years.

In the middle of the 1990s, the market for chemical products extensively underwent transformation from a seller's to a buyer's market, triggered by an increasing supply from Asia, for the very first time.

In the following years, the "traditional" competitive advantages of western manufacturers such as patent protection, high quality and good availability continued to lose importance particularly in the specialty, fine and functional chemicals sector. At the same time the demand for customized solutions, rendered by products, product formulations or combinations or modified logistics concepts, became more important. In addition, a "commoditization" of products and markets led and still leads to a dichotomy in the value-added chain. On the other hand, specialization and service levels are increasing in other areas, based on the very same intermediate or basic product in most cases.

Consequently, these changes and the attempt to achieve a unique selling proposition in individual areas resulted in a generally stealthy yet massive increase in complexity in many areas, which was reflected, among other things, in high stock levels and rising SG&A expenses.

Observers of the chemical industry in recent years know that it was possible to reduce these costs permanently through appropriate programs only in a few cases and mostly in individual areas such as production or logistics. As a result, capital efficiency (defined as the cash flow-to-sales ratio) e.g. in the specialty chemicals and coatings industry has been below the average industry value for many years.

Technical Marketing As a Driver for Innovation

The focus of this development is technical marketing and its operative element, technical service. This area, which has become more important due to the described transitions from a purely product-centered to a more market-centered industry, gets a great deal of attention when it comes to the development of new products.

Because there are fewer and fewer new chemical structures which lead to new or improved application properties, the share of expenditure on technical service and product development has constantly increased. A recent study by Arthur D. Little with companies from the chemical industry shows that just over 50% of resources for research and development are invested in this area.

The Impact Is Underestimated

This is only one aspect of the issue, however. The other aspect is the associated impact of technical service on the entire process chain and the cost structures of a company. Contrary to other areas such as production or research and development, this area and its efficiency are still subject to even less scrutiny today. The reasons for this are as follows:

- The significance of technical marketing and service for customer loyalty
- The non-transparency of primarily incurred costs
- The non-transparency of secondarily generated costs

A marketing and sales study shows that 47% of the customers appreciate the service offers and regard them as a distinguishing element. Price (36) and product quality (17%) only come in second and third in this ranking. Thus service is crucial for a company's success. That is why many companies fear that corresponding optimization can have a negative impact on this sensitive area, with corresponding consequences for the entire company. As a result, there is not only a need to create transparency but also to know the positive leverage effect targeted optimization programs and measures can have in this area.

The second aspect is equally important. While it is possible to identify and optimize manufacturing (production, logistics) and research costs very quickly in a profit and loss statement, the expenditure for technical marketing and service is allocated to many areas and the expenses are comparatively non-transparent.

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A Changed Approach

Consequently, it pays off to conduct a comprehensive analysis of the actually generated costs.

However technical marketing sets off a large number of processes and generates a great deal of "secondary" costs or has a lasting effect on them as outlined below.

Cost and capital efficiency can be increased by means of a comprehensive analysis of these factors and their impact on the various elements of the process chain.

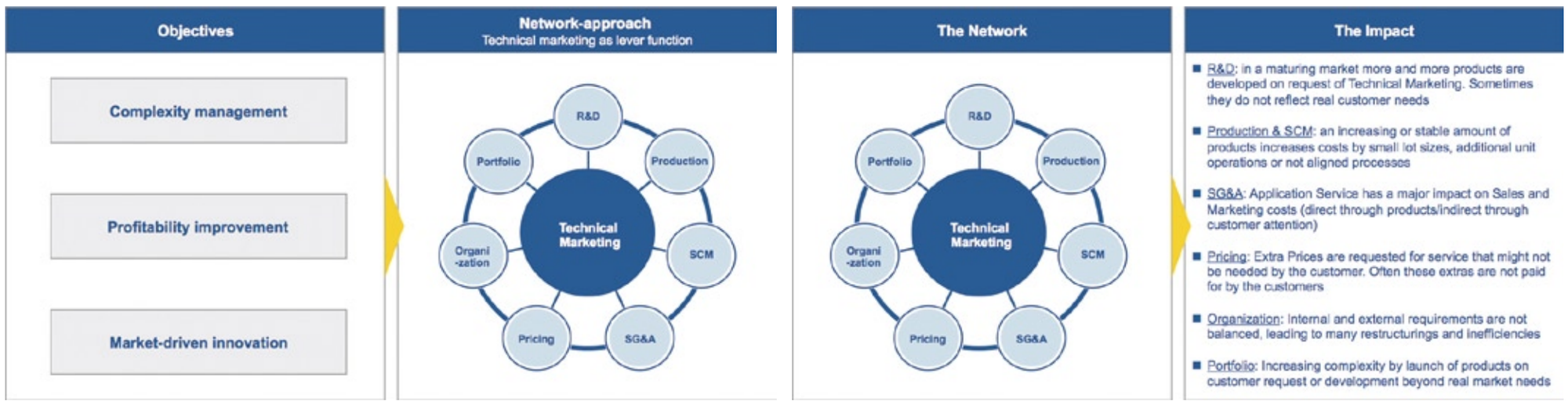
The traditional approach via production usually disregards the market. It is optimized internally, without consideration of customers and markets initially. In this case adjustments are often important during the optimization process. Frequently it is required to accept higher stock levels in order to serve the markets despite changed production structures or to even pull out of entire submarkets.

Optimization from the market perspective is initiated with the technical service approach. This involves the scrutiny of customer needs and wishes and the services they generate, such as product diversity, packaging combinations, product variation by means of development and price setting, etc., and working out the actually value-adding elements for the company in the market. This may well be in the customers' interest because provision of satisfactory quality and limited service is sufficient in many areas, whereas expansion of the service components is required in other areas.

A decisive factor in this process is profound knowledge of the market and its requirements which are not always reflected by the wishes of the customer's purchasing departments.

Measures derived from this process therefore lead to comprehensive improvement and reduction of the complexity mentioned above. The monetary result is generated firstly by cost efficiency in important areas such as production, research and technical service and secondly by an optimized product range, lower stock levels and a clear separation of commodities and special products.

This is a long-term process which will be completed over a period of two to three years, not just within a few months. However it will pay off to tackle this process with determination because it not only leads to sustainable improvement, it also enables a change in perspective: from real market requirements to your own processes!



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'Saints And Sinners'

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How much of a responsibility do companies have who are sourcing from emerging countries to make sure that the products they are buying are of high quality and not contaminated?

T. Scott: Legally? They are 100% responsible, but no one is enforcing it effectively. If it comes down to a qualified person signing off on product quality or a finance director looking at the cost of a particular raw material, guess who wins every time?

So companies are, in a way, forced to source chemicals at the lowest price possible?

T. Scott: In many situations, yes, especially if their customers in turn are also asking for the cheapest product. Good examples can be found in the national health services of EU member states looking for the best price on generic prescription drugs, and the number of people in the U.S. and elsewherewho order their prescription drugs online out of Canada. They don't know where it was made or where it is really coming from or if it is a counterfeit or not.

Roger LaForce
EFCG Pharmaceuticals Business Committee chair

Tony Scott
EFCG Adviser

R. LaForce: The pressure on the drug industry to reduce costs is also very heavy; politicians are always eager to show their voters that they have achieved something. This is a very complicated and long-term process, which is why it's important that the EFCG is vocal in raising its concerns and finds a better way to communicate with government organizations, not only in Brussels, but also in other countries. This is one of the reasons why we want to raise the flag to give the EFCG a higher profile.

How closely does the EFCG work together with the relatively new pharma supply chain consortium Rx-360, which is very active with the U.S. FDA?

T. Scott: We have been an observer member of Rx-360 since 2010. We fully support their work in increasing the security of the supply chain and in reducing the number of audits of our members' sites and products. As Rx-360 is a US-dominated consortium, our role is to spread the word in Europe and to get involved to correct the perception that Rx-360 is only about APIs, excipients and final products. It's not, as they may also approach our members to audit their intermediates products, most of which do not need cGMP facilities. Nevertheless, what they've done in the last two years is really quite remarkable; they are currently in a pilot phase of auditing facilities in Europe, the U.S. and Asia for both APIs and excipients, which is potentially great for the industry. Also, we as the EFCG have sometimes found it difficult to engage in dialogue with government agencies around the world, and the fact that we now have American companies and trade bodies agreeing with our policies on APIs and excipients is very helpful for us.

But communication with government bodies is absolutely essential for groups such as the EFCG. What are your plans for improvement in this area?

R. LaForce: One of our objectives is to simply reinforce the contacts by informing them of what we're doing. For example, we've put together an informative brochure that gives a good overview of our activities. We're also launching a new public website by early April.

T. Scott: I do think we need to really get on a regular discussion basis, not only with the FDA and the EMEA, but also with the Chinese and Indian regulatory bodies. The Indian Chemistry Council has been very helpful and has opened the door for us there, for example.

The EFCG's work is also interesting for players coming out of these emerging markets who want to do business in Europe and who want to improve their own images.

R. Laforce: Yes, of course, and there are a lot of multinational companies in these regions who do good work. I think we do make an impact because the European industry as a whole is buying a lot of products from these areas and has its own facilities in these countries, and they are certainly interested in having a solid relationship with us. It must be a two-way street.

T. Scott: I also think that if companies from emerging countries want to be successful in an international market, they have to wake up to the fact that they need a brand that sells, then they have more of a chance of being seen as a company that operates consistently at a high quality standard and on more of a level playing field, at least from a regulatory standpoint. This can take time to achieve.

Are there other countries out there that are emerging as sources for low-quality formulation and packaging that aren't on the radar yet?

R. LaForce: Vietnam is building up in this area for example; a lot of Chinese companies are going to Vietnam, particularly on the dosage form side at the moment. Turkey is another possibility, as is Russia. However, there just really aren't any countries that can compete with China and India.

In the Chinese provinces where most of the pharmaceutical chemical manufacturers – such as the areas around Shanghai – have very strict regulations, and some companies are moving their plants to provinces with more lax laws. We need to watch the government how it will handle this tentative to go around stricter regulations.

What about India?

R. LaForce: It's a different story there. First of all, the country needs to develop its internal infrastructure – roads, trains, ship ports, airports, etc. India is still relying a lot on private entrepreneurs whereas China has a master plan. Either way, in any big country it's impossible to have a homogenous situation, and if there are people who don't want to comply with regulations, then it's very easy for them to move to a region in the same country that doesn't have such strict regulations. However, they may be an improvement in the future. A number of large Western pharma houses have announced that they want to grow in emerging countries and markets. Patients in these markets need to have the same quality standards as we have in the so-called triad regions of Europe, USA and Japan.

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Feels Like Home

Localization a Key Success Factor for Doing Business in China

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

Dr. Kai Pflug
CEO, Management Consulting – Chemicals

Stiff Competition – When looking at China, the competition between domestic companies and multinational companies (MNCs) has so far largely been one between cost and customer relationship advantages on the side of the domestic players, and advantages with regard to quality and product portfolio on the side of the multinationals. Multinationals will surely try to cement these advantages by keeping their focus on product quality, and by staying ahead of the domestic competition via constant innovation and thus a superior product portfolio. However, these actions alone may not be enough to guarantee their success in China. In many areas, the quality of Chinese companies is already comparable. It will be harder for Chinese companies to close the innovation gap, but given the number of scientists available, at least the potential is already there.

Apart from maintaining their advantages, multinationals will therefore also have to work on reducing the weaknesses mentioned above. The key to this is localization, i.e., selectively shifting resources and taking up characteristics of domestic chemical companies. Of course this has consequences not only in China, but also in the traditional production countries of the multinationals. A recent example is Bayer's announcement to cut 4,500 jobs globally (of which about 1,700 will be in Germany) while at the same time creating 2,500 new positions in emerging markets such as China, India and Brazil.

Localization brings costs closer to the lower local Chinese level, thus reducing the cost advantage of domestic companies. At the same time, localization brings a better understanding of the local market and better customer relationships. And localization can be a beneficial strategy for essentially all aspects of the chemical value chain (fig. 1).

For R&D, there are obvious benefits to accessing the large number of Chinese scientific university graduates with salaries of only 10–20 % of their Western counterparts. Though this salary gap is shrinking, it will still remain relevant in the foreseeable future. Apart from the cost aspect of hiring local scientists, they will also have a better intrinsic understanding of local product requirements – not least as they are able to communicate directly with all their Chinese customers.

Indeed, with regard to product development, most MNCs have already established capacity in China. For example, DSM just opened a Composite Resins R&D center in Shanghai, which will not only be responsible for local resin formulation but will also be the global center of excellence for specific areas of composite development. Further expansion of R&D work in China seems to be a given — for example, BASF has stated the intent to double its local R&D staff by 2020. The only limitation of these activities is that most R&D work done by multinationals in China focuses more on development than on basic research, with IP concerns frequently cited as a reason.

Local Sourcing

Local sourcing is an obvious approach to achieving a cost structure more comparable to that of local competitors in China. Far from all raw materials are cheaper in China, but selectively employed, there is a potential for savings. As the quality of Chinese raw materials has improved (the MDI of Yantai Wanhua being an obvious example), multinationals are now much more confident to procure locally, with the added benefit of shortening the lead time. Local sourcing is natural in the case of JVs, e.g., the Cabot Bluestar JV sources its silane raw material from Bluestar, one of the parent companies. In several cases, local sourcing goes as far as multinational industry leaders not only sourcing raw materials but even products they themselves produce outside of China – and brand and market them as their own in China. With the quality of Chinese products continuing to improve, the locally available product range increasing and cost pressure on multinationals not lessening, local sourcing will become even more widespread.

Local Production

Local production as a way to reduce costs even dates back from the times when products made in China were mostly for export and not for the domestic market. Increasingly, local production is now done not only for bulk products such as MDI and TDI, but also for specialty products. For example, Clariant recently announced to produce formulation inert agrochemical ingredients in China. Another way of increasing local production while getting closer to local customers is to open multiple production sites at different locations in China. AkzoNobel is following this approach with their powder coatings business, which just opened its sixth location within China in Wuhan, a region so far largely ignored by multinational chemical companies.

A fast way of getting into local production is the acquisition of a Chinese player, which of course also gives a headstart with regard to customer base and market knowledge. For example, Lanxess bought domestic producers of iron oxide pigment as well as polyols.

A similar approach may be taken in marketing and sales. Acquisition of a domestic player obviously helps establishing a local brand and may do so even without diluting the own brand. AkzoNobel just bought Prime, a major player in the Chinese market for auto refinish involved in development, manufacturing and sales for the domestic auto market. As this example shows, acquisition of a local player can be a very effective strategy in staking out a position in the fast-growing mid-market segment in China. Of course, localization simply requires making the whole range of company marketing tools available in Chinese. While most companies have achieved this for basic information such as the company website, localization is far from complete with regard to more technical and product specific information.

Localization brings costs closer to the lower local Chinese level, thus reducing the cost advantage of domestic companies.

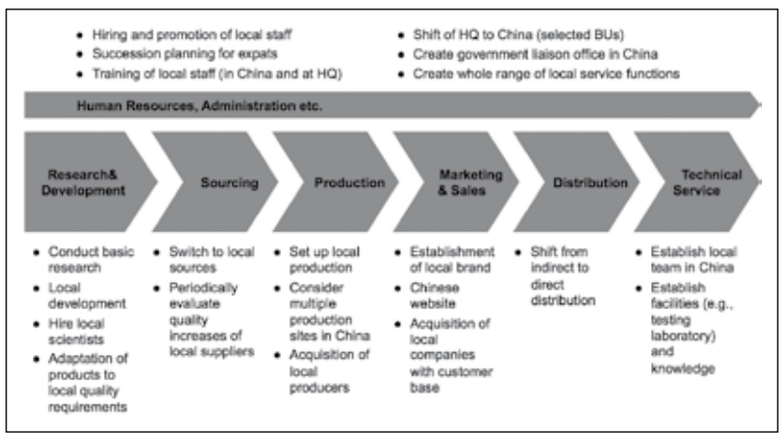

Fig. 1: Aspects of localization across the chemical value chain

Local Distribution

Localization of distribution is a two-step process. The first is making a company's products available in China in the first place. Most companies have already done this by selecting suitable distributors, though the coverage may still have gaps. In the second step, localization requires shifting the majority of sales from indirect to direct. While this step is necessary in the long run to improve profitability and increase market knowledge, it is not straightforward. When Bayer's Coatings, Adhesives and Specialties business unit took this step a few years ago, sales staff had to be increased by a factor of five, and lengthy negotiations were necessary with existing distributors. However, the vastly improved results clearly showed it was worth doing. Still, smaller businesses still often handle the Chinese market with only two or three own sales people and continue to strongly depend on distributors.

Local Technical Service

Establishment of local technical service is another important step in localization. It generally does not reduce costs (though there are some savings to be had from the lower reliance on visits of technical staff from other regions), but it intensifies the relationship to local customers. Apart from hiring local technical staff, it also involves establishing suitable facilities for testing and duplicating customer processes in the laboratory. For example, Chemtura just opened facilities in Nanjing aimed at providing timely and regionally attuned technical service.

Apart from the various localization opportunities along the value chain, there is also potential with regard to the more general and service functions of chemical companies.

Human Resources offers many obvious measures such as the hiring and promotion of local staff and management, succession of expats by local staff, and the training of local staff. The difference between different multinational companies here is in the speed and level this staff localization has already taken place. For example, the local heads of companies such as Süd-Chemie, Merck or DSM are already (Western-educated) Chinese.

Finally, in the long run there are number of other ways to localize central and administrative functions of multinational companies. The most obvious one will be the shift of the regional and eventually global headquarters of selected business units, the most likely being those with strong China focus, for example in some plastics and coatings raw materials.

China's history is rich with examples of foreigners entering, starting by duplicating those structures they were familiar with from their home countries, but eventually ending up adapting more and more to the local customs and conditions. And the reason was always similar – it is much easier to change the few newcomers than to change the vast majority of Chinese. With a grain of salt, this also applies to multinational companies entering China. The key to their long-term success will be to adapt as much to China as possible while keeping a few important features that will distinguish them from the local competitors.

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Nexeo Buys Ashland Distribution

Ashland has closed the sale of its global distribution business, Ashland Distribution, to Nexeo Solutions, an affiliate of TPG Capital, for about $979 million in cash, including an adjustment for estimated closing net working capital, plus the assumption of certain specified liabilities. The purchase price is subject to post-closing adjustment for the difference between estimated and actual closing net working capital. With approximately 2,000 employees, the business generated revenues of $3.4 billion in fiscal year 2010.

Commenting on the transaction, Chairman and Chief Executive Officer James J. O'Brien said, "This transaction signifies our sharpened focus as a high-performing specialty chemicals company. It also is consistent with our overall goal to return maximum long-term value to our shareholders." ■

A Standout in the Crowd

SOCMA Gives Smaller Chemical Companies a Voice

Representing Interests – As anyone who has ever tried to shout at a player during a soccer game surely knows, it's almost impossible to for a relatively small voice to be heard in the middle of a crowd – no matter how good the tactical advice coming from the stands might be. Looking at the chemical industry, between all of the large multinationals are a considerable number of small- and mid-sized companies, often times owned by families or private equity firms. Making sure their interests are fairly represented is no easy task, especially in the U.S., where a whole host of regulatory issues are now coming to the forefront.

That's where the Society of Chemical Manufacturers and Affiliates – better known as simply SOCMA – comes in. The association, which is now celebrating its 90th year –represents the interests of the batch, custom and specialty chemicals manufacturing industry. "The needs of the batch industry are very different than those of the commodity chemical companies," said SOCMA President and CEO Lawrence D. Sloan. "That is why we really strive to provide a unique service to smaller-sized chemical companies." Brandi Schuster spoke to him about the organization's current "front-burner" issues for its 200-plus member companies and its three strategic directions.

CHEManager Europe: Mr. Sloan, SOCMA has a lot on its plate right now, from demands from the Department of Homeland Security to the Toxic Substances Control Act – also known as TSCA – reform. What is your number one issue right now?

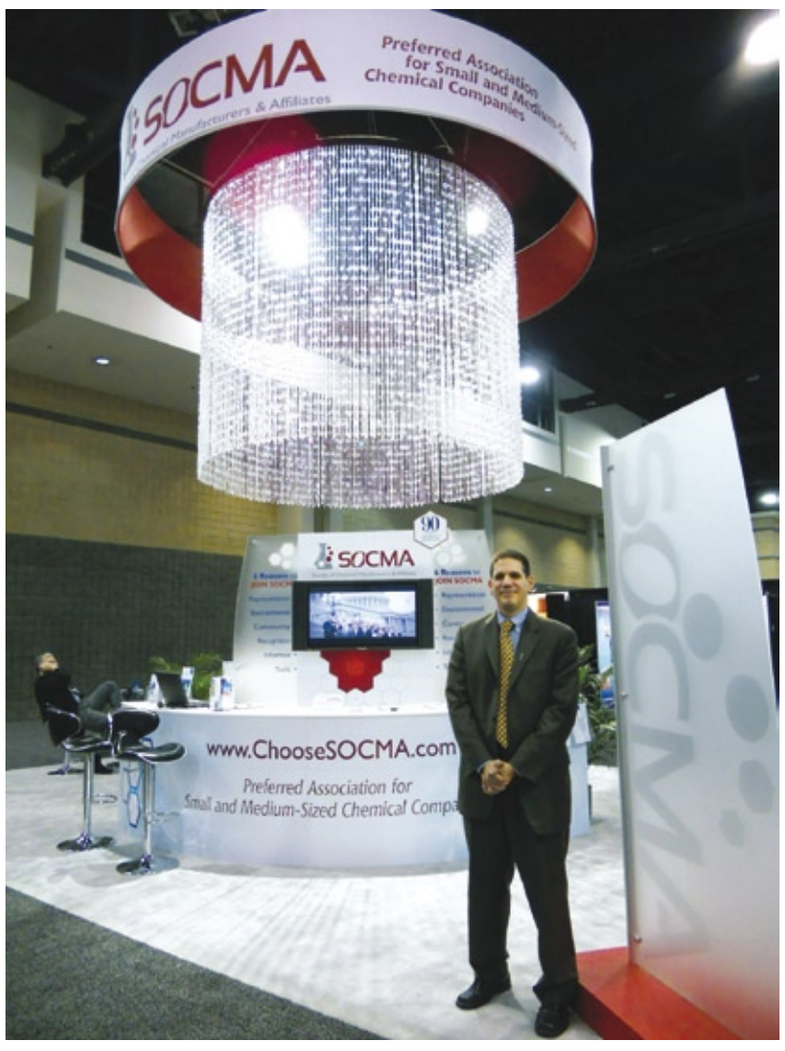
L. Sloan: One of our biggest issues right now is the U.S. Department of Homeland Security's CFATS – which stands for Chemical Facility Anti-Terrorism Standards. Currently, the standards establish risk-based performance standards for the security of U.S. chemical facilities. It requires covered chemical facilities to prepare assessments to identify facility security vulnerabilities, and to develop and implement measures that satisfy the identified risk-based performance standards.

That sounds reasonable, particularly for a country such as the U.S., which has spent millions on boosting its domestic security since 2001.

L. Sloan: We advocate that CFATS is a strong and robust program, and we are working to get it reauthorized

Lawrence D. Sloan, president and CEO of SOCMA

for a multi-year period. Several bills have recently been introduced in the U.S. Senate and House of Representatives that would extend the current chemical site security rules for several years; this would allow enough time for the rules to be implemented before making premature revisions. The Senate bill (S.473), spearheaded by Senator Susan Collins, would extend CFATS for three years, while the House bills, H.R. 901 and H.R.908, would extend the program for seven and six years, respectively. We find it encouraging that representatives across party lines are working together to continue the Department of Homeland Security's comprehensive chemical security regulations for years to come.



Another issue in the U.S. is "inherently safer technology" or IST. What is it about?

L. Sloan: It more or less means that the Department of Homeland Security would have the responsibility and the management of requiring chemical companies to mandate product substitution changes. In other words, if they deemed that the manufacture of a particular chemical was too dangerous, they could mandate that that company replace that chemical with something safer.

What is SOCMA's take on that?

L. Sloan: It makes no practical sense. First of all, the experts cannot even agree on what IST means. And even if you could get all the experts to agree on what IST means, the Department of Homeland Security is being asked to dictate science. The Department of Homeland Security knows nothing about the science behind this process safety measure.

What is the current state of IST now in the U.S.? Is it being enforced, or are its guidelines covered under CFAT?

L. Sloan: Right now, IST does not technically exist as a mandated policy. Historically, chemical companies have and will continue to innovate towards products which are designed and formulated to meet the EPA's green chemistry principles; however, we feel it is best left up to the private sector to manage new product development rather than some sort of top-down "one size fits all" IST mandate that is neither practical in its approach nor readily enforceable by an agency such as the Department of Homeland Security, whose focus is and should remain in the realm of site security and terrorism prevention.

The Department of Homeland Security is a relatively new entity in the U.S., having been created as a response to the Sept. 11, 2001, terrorist attacks. Who regulated this sort of thing prior to then?

L. Sloan: No one. This all came into effect after Sept. 11.

TSCA is also in the process of being reformed now.

L. Sloan: Yes, and we believe there should be some reform, but it needs to be based on the concepts of risk and prioritization of chemicals. Simply said, just because a chemical is hazardous doesn't necessarily mean it should be banned. Draft legislation that came out of the Senate and House committees last year were heavily slanted in favor of environmentalists, and would be impractical to implement. Even if it were possible to enforce it, the Environmental Protection Agency would need far greater resources in order to handle the amount of testing work that would be involved.

Do you see any similarities between the TSCA reform and Reach?

L. Sloan: There is a lot of uncertainty now in the U.S. chemical industry as to whether TSCA will become an American version of Reach. European companies have said that they are willing to share a lot of the health and safety data that has been collected under Reach, so there are definitely points for synergies between the regulations. However, as an industry, we have to look at not only the hazardous nature of a chemical, but also at the risk of exposure. There are a lot of chemicals out there where the risk of exposure is minimal to none; while some might be hazardous, they are used in a very controlled environment.

SOCMA also does advocacy work in regards to Food and Drug Administration reform.

L. Sloan: Our separately funded affiliate, the Bulk Pharmaceuticals Task Force, focuses on this kind of work. A significant problem right now is the discrepancy between FDA inspections in the U.S. and outside of the country. When the FDA inspects a foreign facility, it has to schedule its visit months in advance; inspectors can't just spontaneously show up like they do in the U.S. Also, the frequency is a problem – overseas, inspections may take place in five- even seven-year intervals, whereas it can be every two years in the U.S. That's why we're working toward FDA reform from a legislative perspective to provide the agency with more funding, in order to provide the pharma industry with fair inspections.

This sounds very similar to something Rx-360, a U.S.-based pharmaceutical supply chain consortium, is pushing for. How closely do you work together?

L. Sloan: Rx-360 members are companies and organizations, not individuals, and it is NOT intended to replace regulatory systems or provide oversight. Our Bulk Pharmaceuticals Task Force is an official organizational

member and several of our members are also members of Rx-360. Both organizations work together both on Capitol Hill and with the FDA in advocating for drug supply chain reform; specifically, there is mutual interest in strengthening foreign drug plant inspections so that they are on par with domestic inspections and developing some sort of "origin of country" labeling requirement.

I will be representing the Bulk Pharmaceuticals Task Force as a speaker at the upcoming Rx-360 Open Forum being held at Chemspec USA in Philadelphia on May 5. Three Bulk Pharmaceuticals Task Force members will serve on a panel and share their insights about the benefits of their companies' affiliation with Rx-360.

How do you coordinate your efforts with European groups, such as the European Fine Chemical Group, the EFCG?

L. Sloan: We work very closely with the EFCG. Most recently we've been coordinating commentary to the FDA on the reform issue to make sure that we are aligned. Here in the States, we also work together with the American Chemistry Council. On some of the macro-business issues like employment labor law or taxation issues, we will work with the National Association of Manufacturers. NAM is a big powerhouse in Washington, and they address more of the general business policy issues.

SOCMA has three strategic directions – helping members grow, working to build confidence in the chemical industry and advocating your members' interests in Washington. SOCMA's numerous peer groups plug into the growth strategy, and your work in Washington is also clear. What do you do to build confidence in an industry that often comes under fire?

L. Sloan: One main component here is ChemStewards, which is our environmental, health, safety and security program designed to help US facilities optimize their performance, save money and enhance their role as good corporate citizens.

In what way?

L. Sloan: ChemStewards is not a one-size-fits-all program. A main difference between ChemStewards and other performance improvement programs is that it is facility driven, which means all of our members' manufacturing facilities must be ChemSteward certified. Third-party audits are conducted every three years. The types of reporting that are required depend on the company size, and we are currently working on adding metrics for being green and sustainable.

What advantages do your members have from the program?

L. Sloan: We are finding that there is a commercial advantage in practicing ChemStewards; oftentimes it is actually written into the purchase agreement and our members are becoming preferred vendors in many areas. And that is a pretty big deal, because now the companies moving beyond the realm of environmental, health, safety and security and a feel-good program to one that actually has a tangible effect on the bottom line.

▶ www.socma.com

Turn to page 1 for an interview with Roger LaForce and Tony Scott from the European Fine Chemicals Group, EFCG.

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Sanofi Gains Control of Genzyme

Chris Viehbacher
CEO of Sanofi-Aventis

French drugmaker Sanofi-Aventis completed its improved $20.1 billion offer for Genzyme, allowing it to begin merging the U.S. biotech into its business and add rare diseases to its growth areas.

Sanofi said 84.6% of Genzyme's common stock had been tendered, with shareholders receiving $74 in cash and one certificate per share entitling them to future payments if specified milestones tied to several Genzyme treatments are met.

"Through the acquisition, Genzyme will become an important new platform in Sanofi-Aventis' sustainable growth strategy and expand the company's presence in biotechnology," Sanofi said in a statement.

"Sanofi-Aventis is making Genzyme its global center for excellence in rare diseases."

Chief Executive Chris Viehbacher added in the statement that the integration process for the two companies was "progressing well and remains on track."

Sanofi clinched its long-sought deal to buy Genzyme in February with a sweetened offer that Genzyme's board unanimously recommended to its shareholders.

The contingent value rights (CVR) runs through 2020 and if all milestones are achieved could pay $3.8 billion in total.

Genzyme investors can be paid $1 per CVR if Genzyme meets specified production levels of Cerezyme and Fabrazyme this year after the two key rare disease drugs were in short supply due to contamination problems at a manufacturing plant.

Another dollar will be paid if the U.S. health regulator, the Food and Drug Administration, clears Genzyme's Lemtrada multiple sclerosis drug for marketing, which could come in 2012.

Further away are milestone fees tied to the sales performance of the drug whose sales potential was a key bone of contention between the two companies during the takeover battle.

The face value of one CVR is as much as $14, to be paid over time if targets are met, but analysts expect it will be highly discounted in the market given the risks tied to a drug that has yet to be approved and the long timeframe. ■

EU Clears DuPont's Danisco Acquisition

Ellen Kullman
President and CEO of DuPont

DuPont cleared a hurdle in its bid to buy Danish group Danisco by gaining European Union approval, but doubts about the agreed $6.4 billion deal linger after low acceptance by Danisco owners.

The U.S. chemicals group said the European Commission had approved its tender offer for Danisco, the Danish food ingredients and enzymes maker, and it expected to close the transaction this month.

"Only Chinese approval now remains as a regulatory condition of closing," chief executive Ellen Kullman said.

DuPont and Danisco announced the agreed takeover in January, but acceptance by Danisco shareholders of the 665 Danish crowns per share offer worth 33.4 billion Danish crowns ($6.4 billion) has been sluggish while regulatory hurdles have been pending.

DuPont has twice extended the offer, most recently on March 30, when it prolonged it to April 29 after Danisco shareholders with only 6% of the stock had accepted the bid.

That was far below the 90% acceptance that DuPont requires to complete the deal and delist Danisco.

"We remain confident that Danisco shareholders will follow their board's recommendation to accept our premium cash offer, and the transaction will be completed later this month," Kullman said in the statement.

But analysts said DuPont would still have an uphill battle to carry out the deal.

"I think they will have difficulties obtaining the 90% (acceptance level) with the current bid," Handelsbanken Capital Markets analyst Dan Togo Jensen said.

"They would get a better chance if they raised the bid because of the stronger-than-expected underlying performance of Danisco," Jensen said, adding he also expected there was a chance DuPont would raise its offer.

The U.S. company has repeatedly said it will not raise the bid, which it has called "full, fair and firm."

Competition approval for the deal has earlier been obtained in the U.S. ■

Setting Standards

How Talke Offers Styron a Higher Level Transport Concept

Pacemaker – Talke's tailor-made concept for the plastics specialist Styron sets standards for "clean room" loading and transport. Polycarbonate is an extremely versatile material. With a consumption of 2.2 million tons every year, the material accounts for only 1.3% of global volume of polymer production. Despite this, polycarbonate products are part of our everyday life.

Calibre-brand polycarbonate granulates are manufactured by the polymer, latex and rubber multinational Styron at its production facility in Stade, northern Germany. Calibre has an impressively high scratch, impact and heat resistance combined with exceptional clarity and among its applications it is used in the manufacture of digital, optical media such as CDs, DVDs and Blu-ray discs.

The Highest Standards of Quality and Durability

In line with the high requirements of the end products, the standards set for Calibre as a raw material and the logistics processes behind it are also very complex. Polycarbonate granulates used in the field of optical media are subject to strict quality and purity requirements.

The smallest particle of dust or too high a ph value in the transport container can adversely affect the properties of the polycarbonate and render it unusable. In developing transport and logistics concepts, it is essential to ensure the same level of protection from environmental contamination on road and rail as can elsewhere only be guaranteed in a closed-loop production cycle through to the end product.

Great Effort On Behalf Of The End Consumer

"The great effort we put into our production and logistics ultimately benefits the end consumer," said Jens Hariefeld, senior production leader, Polycarbonate at Styron in Stade. "As consumers we expect our favorite album still to play true even after some time and that the Blu-ray disc we have borrowed will not jump and jerk at the vital moment."

Styron is a young company. Until June 2010, Styron was part of the Dow Chemical Company. In the course of the spin-off, a large number of processes such as the transport and logistics concept for Calibre polycarbonate granulates were reviewed.

"We were looking for a way of optimizing our Calibre granulate transport based on the existing concept. We anticipated in particular that a revised concept using comparable equipment would result in a higher transport weight," said Hans-Heiner Neuhaus, Styron Deutschland Managing Director and Styron Global Business Manufacturing Director & Technology Center Leader Polycarbonate and Compounds & Blends. "So we were all the more surprised that we could immediately see when Talke presented its concept that it was based on significantly smaller transport containers."

Talke's experts took a bold decision and redesigned all the loading technology at the Stade production facility.

Increased Transport Volume, Improved Protection

Once the developers at Talke were made aware of the specification, they quickly realized that the only way to achieve a satisfactory increase in transport volume was to come up with new, lighter equipment. They therefore developed a concept that went way beyond offering a pure transport solution.

Following an initial in-depth assessment of the loading technique, which was conventionally carried out through two manholes on the 40ft containers used, Talke's experts took a bold decision and without further ado redesigned all the loading technology at the Stade production facility. In future, loading was to be carried out through only one opening in a 30ft container.

"Compared with standard transport, 'clean room' transport requires higher standards – and for this reason the concepts must be designed specifically for this segment. We knew that in order to ensure maximum protection for the product we had to eliminate as many contamination opportunities as possible, right from the outset," said Klaus Wessing, Talke's director of Transport Division & HSSEQ Services. "So, during the design stage we decided to give each container only one loading port and thus reduce the risk of contamination by 50% compared with the conventional process."

So how were they to achieve an evenly distributed load with greater transport volume in a smaller container with only one loading port, when one considers that all the conventionally loaded containers in Stade were only capable hitherto of utilizing 70-75% of the space available?

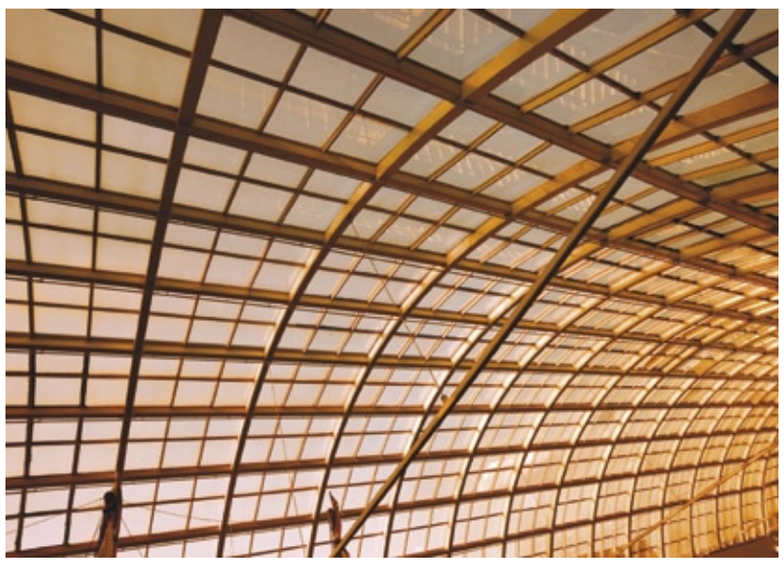
The answer was to make use of the natural flowing properties of the product itself, which in the case of polycarbonate granulates behaves like fine gravel. In addition, the container to be loaded was tipped up using its own tipping mechanism mounted on the chassis. This effectively obviates the formation of conical piles, the small heaps of product which are formed during the loading of free flowing products.

In this way, using the technology developed by Talke, almost 90-95% of the volume of the container can be utilized while at the same time minimizing the risk of contamination.

Talke had the containers required for this purpose made by FFB in Lower Saxony and has leased them to Styron on a long-term basis. They are manufactured entirely out of highly abrasion-resistant stainless steel. During the design process, guaranteeing high purity standards was also of the highest priority. With the objective of avoiding any dust contamination within the container, even during the transport chain, particular attention was paid during the development process to the air filtration and the hermetic sealing of the container.

Focus on Sustainable Transport and Logistics Concepts

All vehicles employed by Styron throughout Europe are based at Rotenburg an der Wümme (Lower Saxony). This additional facility was opened by Talke to supplement the site at Stade and to provide additional capacity, thus enabling the logisticians to react rapidly and reliably to periods of peak demand and to serve other special transportation needs in the Oldenburg/Bremen area. Stand-by costs and journeys were reduced and did not need to be passed on to the customer. In total, this new concept enabled Talke to offer an increase in payload of around 12.5% while at the same time reducing CO_2 emissions.



Polycarbonate granulates are used, among other things, for the production of high-quality plastic furniture and the implementation of demanding building projects.

Following the handover of the first containers in February, the transport services for Styron started at the beginning of March. Both partners, Styron and Talke, are convinced of the success of this development.

"We want to offer our customers innovative and sustainable solutions," Neuhaus said. "And this means that when choosing a service provider we do not take our decision solely on grounds of pricing, but look at the overall concept behind the price, taking into account their own development ideas."

Klaus Wessing: "We are delighted that we were successful in persuading Styron of the merits of our transport concept. In the context of our commitment to promoting sustainable transport and logistics, the development of concepts that combine increased efficiency with a significant reduction in our carbon footprint is one of the core tasks on which we intend to focus in the coming years."

"The transport concept developed by Talke represented the best opportunity for us to offer the market significantly enhanced performance while balancing environmental and economic considerations. It has clearly demonstrated that change is possible when strong partners such as Styron and Talke act in concert," added Jens Hariefeld.

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Movin' On Up

How Solvias Relocated to a New Location without Missing a Beat

Moving Day – Solvias has successfully relocated 280 workplaces to its new location in Kaiseraugst, Switzerland. More than 100 truckloads of freight with a volume of nearly 4,000 m^3 were required to transfer Solvias' analytical services, solid-state-services, process analytical technologies and offices. As the new location is relatively close to the existing synthesis and catalysis units which remain in Basel, the new building ideally supports Solvias' integrated strategy for chemical and analytical development.

A Big Step in The Company's History

Towards the end of 2007, the decision was made to concentrate the majority of Solvias' departments in a new building in Kaiseraugst in the Canton of Aargau (12 km from Basel). In addition to creating space for growth, the move also enabled Solvias to nurture its independent culture in its own building more intensively. The laboratories and offices in the functional yet elegant new building are able to accommodate up to 300 modern workplaces. An additional area of land has been contractually secured for further growth.

"The new building was an important strategic decision for the development of the company. Our future requirements will be very well met by the location as well as the wide laboratory space. This will enable us to react flexibly to changing market conditions and customer requirements," said Hansjörg Walther, CEO of Solvias.

A Logistical Challenge

In a pre-project, the quantity structure and general strategy were evaluated. As Solvias provides services for the pharmaceutical industry under cGMP, it was clear that the whole process of relocation had to mirror this quality standard. The principle of a "Relocation Master Plan" and a "Relocation Master Report" under the supervision of Quality Management/Quality Assurance (QM/QA) was therefore applied. A smooth process with virtually no disassembling of components, using controlled conditions (special trucks, shock sensors, specially padded containers for sensitive equipment, etc.) during the physical move ensured intactness and successful requalification of the analytical equipment.

An inventory control covering 80 parameters per device gave an overview of the complexity.

On this basis three scenarios were elaborated, ranging from a longer relocation period with parallel operation including redundant devices to a short and complete break per department.

A risk based assessment including experts from QM/QA, associates in charge of the analytical devices and external experts decided to use the Christmas period 2010 for a short break per department and a move in five phases.

After completion of all relevant documentation, this strategy was presented to the Swiss Authorities on June 25, 2010. The inspection of the relocation planning and the site under construction in Kaiseraugst led directly to the issuing of a "Certificate of GMP Compliance" for the new site.

Expert Planning and Coordination by Dedicated Teams

In December 2010, 210 workplaces and over 1,000 devices of complex analytical equipment were moved in accordance with the relocation master plan from Basel to the 60 new labs in Kaiseraugst. Minimization of the down time per analytical device was achieved by rigorous planning and risk-based approach for requalification per equipment group.

For the main part, a project team consisting of experts from all disciplines was set up and the project order was defined. Detailed planning per phase and per module (laboratory/office) commenced. Each of the 60 standard labs at the new site had to be individualized to fit the different analytical devices (infrastructure, media). The process of shutting down (final test before moving/extent of first test at new site) had to be determined in a risk analysis per device or device group. Having fixed this, over 40 external service provider companies who had to support Solvias in doing this job had to be involved in setting up another plan which focused on "who does what, where and when" to minimize the down time.

All this had to be reflected in the relocation master plan (and its attachments). The1,000+ devices ranged from HPLC, GC, balances, x-ray apparatus, microscopes, mass spectrometers, to climate chambers, freezers, ultra deep freezers, etc. Also a huge amount of "non-analytical devices" such as samples, chemicals, solvents, archives, offices, IT infrastructure, servers, PC were on the list that had to move and be handled carefully.

In a competitive bidding, a professional and experienced partner was found who could do the physical move under all the boundary conditions and quality aspects that were defined. The release of rooms, infrastructure and equipments and documents was done by QA before the relocation.

The new site in Kaiseraugst was handed over to Solvias on Nov. 12, 2010. The next day the IT and Facility Management (FM) departments moved as advance party/phase 1. They prepared the IT base and backbone for all other departments and phases.

As an intermediate phase, all the archives, 2,000 running meters from more than a dozen locations at the old sites (Swiss shelter) were moved to two special rooms (analytical archive, company archive COMPACTUS) and organized under a new concept.

From Dec. 13–18, phases 2–5 (analytical labs and offices) were executed as planned, each phase lasting 1–2 days. Due to the ecological packing concept (few packing cases, no pallets, no packing paper) with buffered carrying cases and boxes which circulated all the time, all goods had to be unpacked immediately after they reached their predetermined and exactly marked destination inside the labs. The requalification was completed on Jan. 10, 2011. Overall more than 100 truckloads of freight were transferred with a volume of nearly 4,000 m^3. Internally, 12 man-years of work were invested for planning and execution of the relocation. Despite heavy snow, freezing rain and very low temperatures during the move in December, the only damage that was caused was to one street lamp in the parking lot!

Strong Capabilities in Chemical and Analytical Development

The analytical laboratories in Kaiseraugst provide a comprehensive range of analytical services such as method development and validation for pharmaceuticals as well as for biopharmaceutical molecules. To address the increasing customer demand for stability studies, Solvias significantly expanded its existing capacities for stability studies with walk-in stability rooms. Solvias is therefore in a position to cover all ICH storage conditions for stability studies. Solvias is recognized as a market leader in solid-state development, the new facility also houses the laboratories for polymorphism, salts and crystallization screening and development. By utilizing long-term scientific experience in solid-state development, paired with the latest lab automation technology on low mg scale and high throughput analytical investigation, Solvias can support its customers with a fast salt program to gain scientifically sound information for candidate nomination. Complemented by its scale-up and manufacturing capabilities for APIs up to phase II at its site in Basel, Solvias supports its customers throughout the chemical and analytical development process. A solid technology base in the area of homogeneous asymmetric catalysis and the ability to handle hazardous and high pressure chemistry allows Solvias to tackle a wide range of challenging projects for the synthesis of chiral and complex APIs.

The author would like to thank all co-workers of Solvias, IMS Integrierte Management Systeme e.k. (Pre-Project), Schnellmann Group/ Agustoni Management (Planning), Geuer International Euromovers (Relocation).

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Production

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Production

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'People Are the Crucial Factor'

Bayer Technology Services Strives for Functional Growth

Clear Vision – Bayer Technology Services (BTS) supports the Bayer subgroups and external customers with the development of production processes and products as well as with the planning, construction and optimization of plants. The Leverkusen-based technology service provider, which posted sales of roughly €380 million in 2009 and has some 2,600 employees worldwide, has been expanding its presence in growth markets in recent years and now boasts 22 offices in ten countries. The company also sharpened its focus on expanding its product and technology portfolio and growing its external business. Dr. Dirk Van Meirvenne has been the managing director of BTS since June 2010. Dr. Michael Reubold spoke with him about his plans and vision for the company.

Dr. Dirk Van Meirvenne, Managing Director of Bayer Technology Services

CHEManager: Dr. Van Meirvenne, BTS expanded substantially under your predecessor, particularly through new offices outside Germany. How is the company aligned today, and will you continue this expansion strategy?

Dr. D. Van Meirvenne: We have a remarkably global alignment today, and we will continue to work on this. I regard the development of BTS in recent years into an innovative, global company to be a first-class achievement by my predecessor and our colleagues. BTS currently has regional offices in the United States, Mexico, Brazil, Belgium, Russia, the United Arab Emirates, India, China and Singapore. This is something we will be building on.

What are the pillars of your strategy?

Dr. D. Van Meirvenne: We are continuously refining our strategy. We do this by answering questions about our future strengths, for example. Or in which areas can we further differentiate ourselves from the competition. Which products and services do we want to offer individually for a specific country? What kind of company do we want to be in five years? We continue to rely on what we call functional growth – functional growth that serves to continuously improve the technological performance of BTS, including for our external customers.

As a subgroup, BTS is first and foremost a service provider for Bayer. How does your parent company feel about the growth and expansion of your external business?

Dr. D. Van Meirvenne: The interaction with the outside world helps us to continuously improve and is thus an advantage to the Bayer Group and all of our external customers. We want to maintain a healthy balance between projects for Bayer and projects for external customers. We must work continuously to ensure that our products and services are competitive. BTS is continuously improving as a result, which is one of the reasons why we do this.

What is the ratio between internal and external business?

Dr. D. Van Meirvenne: Our goal is to do roughly one-quarter of our business outside Bayer. We want the market to see us as a company with a reasonable portfolio of partners, competences and technologies. We still have to grow more externally to get there.

New Bayer CEO Marijn Dekkers wants to cut jobs in mature markets and invest in emerging regions. Does that adversely impact your growth strategy?

Dr. D. Van Meirvenne: No, on the contrary. The sharpened focus on emerging countries fits with our strategy. You have to support expansion into new markets with the buildup of local talents. I consider developing local talent and local know-how in those areas where Bayer is doing business to be an important task for BTS. One example of this is China, where Bayer has been present for decades and has invested more than €2 billion in production facilities in recent years. Our roughly 750 employees in Shanghai enable us to implement these mega investments safely and reliably. BTS is still very small in India, for example, but Bayer is aiming to grow strongly in India. Here, too, it will once again be upon BTS to develop local engineering talents.

You also opened an office in the Middle East, in Dubai, where Bayer itself does not have any production facilities. Is the focus there on developing external business?

Dr. D. Van Meirvenne: The Middle East region is relevant to the chemistry business in particular, and especially with respect to the more upstream oriented processes. It is important that we be there with our competence in the area of operational excellence, for instance. Furthermore, our push to become more familiar with the region early on by means of concrete projects also represents value to the Bayer Group in the long term. It is a similar situation with our office in Singapore, where we also do a lot of work with external customers. If we develop technical competences there and can be competitive with local employees, that is also in Bayer's interest in the long run.

You just raised the question of where BTS's strengths lie. How would you answer this question?

Dr. D. Van Meirvenne: Our greatest strength is surely our "owner's mentality." With these we mean the passion for treating customer projects as if they were our own and doing things right from the very beginning. We want to create value for our customers. The fact that we possess the entire range of competences, from conceptual design, process development and basic engineering to construction management, process simulation and startup know-how is a unique competitive advantage.

Our BayOpX operational excellence concepts for boosting the availability of apparatus and plants, for increasing energy and raw material yields, and for ensuring compliance with product specifications have been in strong demand for several years now. We are continuing to develop and advance in this area

Another BTS strength is our ability to develop and apply enabling technologies, i.e., technologies that are important for the future of the Bayer subgroups and our customers. Here you have to think beyond the limits of normal innovation budgets. An example is the new INVITE research center at Chempark Leverkusen, which BTS established together with Technische Universität (TU) Dortmund. Industrial partners are engaged here in precompetitive collaboration on new concepts for the "Factory of the Future," for example. We want to further expand this role as an enabler of future technologies, increasingly also by means of partnerships as with INVITE. This innovation far out on the horizon is important for the future. With it, we are creating a true competitive advantage for our customers.

As you just said, that is far off in the future. How do you hope to develop the BTS technology and service portfolio in the medium term?

Dr. D. Van Meirvenne: We want to balance our very broad portfolio and precisely position ourselves in the relevant markets. We are the global leaders in some areas of engineering; in others, we are working to get there. Always following the owner's engineering philosophy. Our competence goes back beyond engineering, however. We can develop reactions, perform them on a laboratory scale, pilot them and scale them up to production scale. We can size the entire plant and optimize the process. We have a comprehensive know-how chain before it even gets to basic engineering, which is the starting point for many of our competitors. This integration of services leads to top performance in engineering.

A second element is everything having to do with contract research, process development and process design. This is another key platform for Bayer, which we will continue to expand. It also includes focusing on plant and process safety and process management technologies.

Which regions are the most important for your growth?

Dr. D. Van Meirvenne: It isn't a matter of regions, but of functional growth that we can only achieve with well-trained employees. People are the crucial factor. They determine how we can further refine our corporate culture in order to always offer the best solution for our customers and our partners. We consider very carefully how we can link organizational improvements with the motivation of the employees so that improvement is also fun. Enjoying your job means being open for new possibilities, new projects, new horizons. That is the challenge facing many companies. And we will do everything possible to ensure that this highly competent organization can further differentiate itself on the market through its motivation.

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Automate And Empower

How the ARC Advisory Group Developed its CPAS System

A Look Ahead – A Vision of Collaborative Process Automation System (CPAS) is the ARC Advisory Group's vision of how process automation systems should evolve through the next decade. CPAS does not describe any particular commercially available system, but rather it presents a conceptual model as a vision. While the technologies associated with CPAS are available and proven, not all are currently available within any single offering. After examining the evolution and history of process automation systems in our March issue, ARC's Director of European Research David Humphrey now explains the group's concrete vision of how the evolution of process automation should continue in the future.

David Humphrey
director European Research, ARC Advisory Group

When the benefits of utilizing information technologies in process plants became obvious, the major process automation companies all brought new systems to market. This marked the evolution to the next generation of automation systems. Each system differed, based on how a specific supplier viewed the problems to be solved and their perceived solutions to those problems. This led to a period of confusion for users, leading ARC to draft a vision for a new system concept that supported process control, advanced process control, and operations management applications, complemented by human empowerment applications such as decision support and advanced analytics. This vision needed to include general guiding principles, while also providing enough detail to allow in-depth internal discussions as well as productive problem-solution discussions with external suppliers. This effort resulted in the Collaborative Process Automation System, or CPAS.

CPAS Guiding Principles

In the first step, ARC established guiding principles for applying collaborative process automation. We used these guiding principles to create the functional requirements, architecture and technology choices. These principles are viewed as a layered structure, with each subsequent principle supporting those above it.

Return on Assets Value Definition

Most users purchase process automation systems to stay technologically current and reduce total cost of ownership (TCO) relative to minimized risk, rather than to achieve continuous improvement and associated economic gains. The project-oriented nature of acquiring automation tends to mask appreciation for the true contribution process automation can make to return on assets (ROA). The absence of a return on investment (ROI) feedback mechanism and a common basis for measuring performance between business and manufacturing systems further complicates the issue. Operational excellence (OpX), the first supporting layer to ROA, delivers measurable performance improvements by focusing on doing more with less as well as working more effectively and reducing cost.

Effectiveness, Agility And Visualization

Effectiveness, agility, and performance visualization are keys to operational excellence. Effectiveness and agility support the principle of flawless operation. Research shows

that many process plants operate at less than Four Sigma performance levels.

Automate And Empower

Automating everything that should be automated ensures that manual tasks will always be executed based on best practices. Automation also frees up time for worker empowerment, providing these knowledge workers with the opportunity to perform more value-adding functions.

Automation Asset Management

Traditionally, each DCS employed a proprietary system and configuration management environment. CPAS provides an open platform and a mixed supplier environment. In this environment, each application retains its own system and configuration management, but a unified automation asset management facility for configuration management and system health addresses the issue of multiple system and configuration facilities. Configuration management includes an audit trail, priority access, and failsafe configurations for all applications and devices in the system.

Functionally Transparent and Logically Concise

Applications need to interoperate directly across a work process, without requiring intermediate databases or gateways. By removing barriers, applications can operate in tight, but open, configurations. Tight configuration refers to operation inside of a unified communications environment. To be efficient, applications also need to be logically concise in the way they perform their functions. The unified communication environment allows the applications to be functionally transparent. Unification relies on standards to minimize gateways.

Data Certainty And Traceability

Data and information represents CPAS' blood flow. However, at any point in time, up to 10% of the field device-based signals in any system can be inaccurate for one reason or another. Therefore, it is important for this data to have associated quality tags. Dependent variable data should also have quality tags. The regulated industries require that product constituents can traced through their processes, thus CPAS also accommodates traceability functions.

CPAS Logical View

CPAS centers on the common information infrastructure, or single communications backbone. Since Ethernet TCP/IP has become the standard networking protocol for business, manufacturing, and personal use, it can serve as the single logical communications backbone. While security components provide some separation, this virtually remains a common backbone.

This standards-based architecture has a long lifecycle, which, for the first time, supports an evolutionary approach to system upgrades and subsequent new generations of systems that suppliers will bring to the market. In the past, these were replacement events.

This architecture supports a wide variety of functionality. For example, it provides a native architecture for interfacing to wireless local area networks. The standards-based Foundation Fieldbus or Profibus PA for process control and Profibus and DeviceNet for logical control are easily interfaced through linking devices. Application-specific appliances such as analyzers, tracking devices, and others can also be interfaced easily. Application servers supporting mission-critical applications interface through redundant channels with loosely coupled, non-mission-critical applications interfaced through OPC. Finally, since they share the same logical backbone, business systems and automation systems can communicate natively.

Although CPAS is a single model with distributed processing, the configuration standard (IEC 61131-3) utilized in CPAS requires use of common services, primarily system management and master time. System management monitors the health of the system and reports any abnormalities. Master time provides the basis for all time stamps in the system; synchronized to the network time protocol in TCP/IP. Both these shared services reside on a station in the system with a provision for each to be automatically reconstituted on a backup station if the primary station fails.

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Part one of this series, which covered the evolution and history of process automation systems, was published in our March issue and can be read online here:

chemanager-online.com/en/tags/arc

Just Say No to Sparks

DART Fieldbus Cranks up Intrinsically Safe Power

Product – The first real application for DART – Dynamic Arc Recognition and Termination – is DART Fieldbus. It is part of the FieldConnex series of fieldbus infrastructure components by Pepperl+Fuchs. DART technology, which is also known as Power-I and driven by a consortium of 13 companies, enables high power levels while maintaining ignition protection intrinsic safety (I.S.) – the safest way to protect plants in hazardous areas from unintended ignitions and explosions.

Andreas Hennecke
Pepperl+Fuchs

DART Fieldbus is made for hazardous area Zone 1 and gas group IIC. It is certified "by the book" through PTB, the German Metrology Institute, according to the standard that is well-known by all hazardous area specialists: IEC 60079-11. And this means the highest degree of protection in hazardous area Zone 1 through intrinsic safety.

For Today's Fieldbus Instrumentation

Real simplicity is built into DART Fieldbus: It offers all the benefits of FISCO, the Fieldbus Intrinsically Safe Concept regarding engineering, application, and maintenance. Only DART Fieldbus enables more than five times the power of current intrinsically safe fieldbus installations – enough to drive long cable lengths and many devices. Ten years ago, with FISCO the acceptance of intrinsically safe fieldbus began with rules simplifying application and validation of explosion protection. And today, DART Fieldbus breaks through even more barriers-lifting the power limits and enabling the greatest freedom of choice:

Existing intrinsically safe fieldbus instrumentation can be applied or remains in place on upgrades.

"Our first idea for DART Fieldbus was to come up with a full I.S. fieldbus segment with the same attributes and power compared to fieldbus in the safe area," said Michael Kessler, technical director, Components and Technology at Pepperl+Fuchs. "This is why DART only protects the trunk. The spurs are intrinsically safe in the classic way. DART Fieldbus can be used for existing I.S. instrumentation." The differences between DART Fieldbus and fieldbus in safe areas are negligible.

Other attributes include physical layer diagnostics and load-sharing redundancy of power supply. Load sharing means that power supplies are controlled to carry exactly half the load current each. This means optimal operating conditions, a longer service life of power supply and higher system availability. DART Fieldbus may well become the best-in-class solution for intrinsically safe fieldbus installations – it has the power, the options, and the experience from the leading innovator and specialist in hazardous area products, Pepperl+Fuchs.

DART has been recognized as a major innovation for the process industry and was one of the top five nominees for the prestigious Hannover Messe International Technology Prize, the Hermes Award. Only two years after the nomination, Pepperl+Fuchs puts this technology into practice and products.

"It fills us with pride to have been recognized in this way," Kessler said. "We are looking to create a solution that is practical and easy to apply."

Andreas Hennecke MBA, product marketing manager FieldConnex, Division Process Automation, Pepperl + Fuchs

Risk Reduction Included

- Safest fieldbus installation with power – all intrinsically safe
- Working without hot work permit
- Same equipment for all gas groups: Certified for gas group IIC
- Reduced planning risks without special considerations for the hazardous area
- Protection of investment: For intrinsically safe fieldbus instrumentation
- Higher plant availability through built-in supply redundancy

Lifting Power Limits

- Intrinsic safety with more power
- Long cable runs: Up to 1,000 m trunk/up to 120 m spur
- Optional Advanced Diagnostics for the physical layer
- Up to 32 instruments per segment
- Designed and conformant to standards for explosion protection IEC 60079-11

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Triggering Change in Chemical Manufacturing

The Need for New Processes Often Comes from Outside

Outside Influences – The decision for process change in chemical manufacturing can have many different reasons, but in any case, they are based on the observation that that the existing devolution is no longer in line with the need to reach manufacturing excellence. Circumstances caused by externally triggered developments may show the evidence of necessity of change. Key account customers or major changes in customer structure are able to create such circumstances in a very short period of time, making it crucial for an organization to have the right tools to deal with such a situation in the short term.

Key Account Customers – Opportunity or Threat?

Beside commonly used definitions, nearly each organization has its own interpretation what a key account customer is and what it means to its business. The impact of a single key account on the development of any supplier depends mainly on the percentage of suppliers total sales with this key account and the rest of the customer structure of the considered supplier.

Particularly large multinationals tend to form purchasing platforms that cover and conduct the supplies for continental and even global regions. Through their networks and information management, they create transparency on raw materials and product price levels in different regions and markets. With their cross-linked knowledge, they are able to put enormous pressure on a supplier and on margins.

In some market areas, mergers and acquisitions between large multinationals led to the formation of oligopolistic acting purchasing platforms from where regional and middle size company are unable to escape. This development tends to result in jeopardizing economical situations for this kind of companies, especially in markets with over capacities.

Michael Groschner
Head of Carbide Division, Donau Chemie

However, it remains the homework of each supplier to drive its strategy and processes in order to overcome these obstacles and earn the fruits of the opportunities offered by key account customers.

Company Strategy vs. Customer Needs

In general, the relationship between key account customers and their suppliers implies considerable potential for friction. In most fields of cooperation, the supplier's company strategy shows to be adverse to customer needs.

It starts with payment terms and the tendency of big groups to use their suppliers as credit institutions, calling for long payment targets or consignment stock on their sites. This often-used practice works against suppliers' credit policy and working capital issues.

Especially in the commodity industry, the necessity of special services, modifications on product and delivered blends and just-in-time delivery are also criteria that ask for flexibility and additional efforts on suppliers side. Depending on the market situation, it is sometimes very difficult for a supplier to charge for these services. In the above described oligopolistic purchasing structures of big key account groups, these kinds of services and flexibility are very often the only way for a middle-sized supplier to differentiate itself from its competitors.

However, the more a supplier is able to fit into all the mentioned requirements – including commercial terms – the more the customers will recognize such services as strength.

Focusing On Strength

When doing a SWOT analysis, one may very soon discover that opportunities and even more a lot of factors concerning threats are mostly external driven and mainly impossible to be influenced. Focusing on weaknesses will not necessarily improve the strengths. Whereas focusing on strengths – and the opportunities to enforce them – will very often identify those weaknesses that have to be eliminated to reach further goals.

As a consequence, the ability of adapting the processes to the mentioned various needs of key account customers become more and more important as strength – even more so for mid-sized companies that don't have the cost structure of their bigger competitors. The evaluation of possible steps to improve strengths is mostly a slow-moving process, but it can be accelerated by externally driven uncontrollable circumstances – as for example decisions taken by key account customers.

Short Case Study

In this case study, we looked at a producer of a commodity product that is used in two totally different applications and markets. Whereas the removal of impurities is very critical in the market A, it is unimportant for the application in market B.

Our producer is specialized in production of product with less impurities (market A) and delivers nearly 80% of the product to four key account customers, the rest is delivered to market B.

The product is made up of two main raw materials, whereas the second raw material is responsible for the impurities and therefore cost sensitive for the total production. Due to aggressive competitors coming to market A, our producer loses two of its main key accounts and has to compensate this loss of quantity by increasing the sales to market B. As the process is designed for market A, the company produces and delivers now more than 70 % of the high quality product to a market that neither needs nor is willing to pay for the quality.

The decision of only two key account customers turns the structure of our producer upside down and triggers the need for an urgent process change.

Our producer identifies the necessity of the introduction of a second process to focus on replacement of the cost intensive raw material two by a cheaper sort 2b without losing the other customers in market A. The new process is designed to produce alternating for market B with higher impurities but less cost on raw material two and by the former process for market A with less impurity.

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Beside higher efforts in forecasting of sales, purchasing of raw materials and stock logistic for both markets, the new process offers higher flexibility to switch between both markets in case of further changes in customer structure.

Implementation of Company Strategy into Process Change

The question may rise as to why our producer did not prevent this potential threat in advance. Sometimes well-established customer relationships – processes that worked perfectly over the years – or strategies as a niche player or specialist have to be balanced against considerable cost of process change or necessary investments. So this kind of decisions can be triggered by externally driven factors, such as decisions made by key account customers.

However, once a process change is successfully established, it offers a lager spectrum for future strategies and opportunities to reach new customers – and may be new key account customers that one day may trigger new processes.

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Kuwait in Talks with BP, Others over China Refinery

Kuwait is in talks with BP and other major energy companies over a possible role in its $9 billion refining joint venture with Sinopec in China, a Kuwaiti official said recently.

Mohammed Jasem, vice president and chief planning officer for Kuwait Petroleum International, the overseas arm of the state oil company, told reporters Kuwait hoped to conclude the partner selection process by May. "We are not at the final stage. Along with BP there are others," Jassem said. "The door is open for whoever is potentially interested."

The $9 billion refinery and petrochemical project was approved by Beijing last month and is part of Kuwait's aim of more than doubling crude exports to China to 500,000 barrels per day (bpd).

The project consists of a 300,000 bpd refinery and a 1 million ton-per-year ethylene cracker. Kuwait and Sincopec are equal partners in the project. Kuwait exported less than 200,000 bpd to China in 2010 but Beijing is keen to lock in future oil supplies to feed its booming economy. A third partner would be expected to bring financing to the project.

Kuwait held talks in 2009 with Royal Dutch Shell and Dow Chemical over a role in the project in 2009 but no deal with either firm was reached. ■

German Forklift Maker Kion Sets Bond Market Debut

German forklift truck maker Kion is set to make its debut on financial markets with its first ever corporate bond, helping to pave the way for a stock exchange listing in the medium term. The industry No. 2 behind Toyota Industries said the offering would start in April with net proceeds going to refinance its syndicated debt.

A source said the issue of senior secured notes would likely be at least €400 million in size, or about 15% of its overall net debt, and would serve as a calling card for further bond sales. Kion was purchased by KKR and Goldman Sachs for €4 billion in 2006 after parent Linde sold its material handling business to focus on industrial gases. The company, whose outstanding net debt amounted to €2.6 billion at the end of last year, is financed almost entirely through a first-lien loan from a banking and investor consortium, and the lion's share of its debt matures in 2014 and 2015. Through the issue, Kion would create a basis for market transparency by publishing quarterly results, gain greater financial flexibility, broaden its investor basis and stretch its one-sided maturity profile towards 2018.

Once the debt risk clustered around 2014 is done away with and Kion becomes better known to investors in financial markets, it could then take the final step and tap equity markets for financing through a stock market flotation.

Bankers say market demand for German manufacturers is robust thanks to their strong positioning in emerging markets, where Kion sells over a quarter of all new forklift and counterbalance trucks. ■

Saudi Arabia Prepares 28 % Increase in Oil Rigs

Top oil exporter Saudi Arabia has unexpectedly called on oilfield service firms to expand the kingdom's oil rig count by nearly 30%, according to Simmons & Co, to ensure spare production capacity remains ample as supply uncertainty grows.

Saudi state-run oil giant Saudi Aramco met with leading oil service companies including Halliburton, unveiling plans to boost the country's rig count this year and next to 118, from around 92 now, Simmons & Co analyst Bill Herbert said.

"Saudi Arabia has been expected to tread water on its production capacity, so this is unexpected," Herbert said from Houston in a phone interview. "The risk premium in the Middle East has risen. Also, with Libyan production falling, Saudi Arabia may feel it has to be ready for higher production capacity."

Plans to boost the rig count constitute the most overt evidence that Saudi Arabia, holder of the world's biggest oil reserves, is stepping up investment in the face of crude prices of over $100 a barrel, though it is unclear whether this will expand the kingdom's spare capacity beyond the current total of as much as 3.5 million bpd, or merely prevent it from falling. "It's definitely not for expanding capacity," said Siamak Adibi, senior consultant at FACTS Global Energy in Singapore. "For this year, the majority of new wells to be drilled is just for maintaining existing capacity" of 12.5 million barrels per day, Adibi added, including the neutral zone. ■

Japan's Maruzen Restarts Quake-Shut Naphtha Cracker

Japan's Maruzen Petrochemical said it began restarting its 480,000 tons per year naphtha cracker in Chiba, east of Tokyo, earlier in the day, nearly a month after it was shut down following the magnitude 9.0 quake on March 11. The restart means only two crackers remain shut due to the quake. They are operated by Mitsubishi Chemical Corp at its Kashima plant, northeast of Tokyo, and have a total capacity of 828,000 tpy.

Mitsubishi Chemical, a unit of Mitsubishi Chemical Holdings, said in late March that the restart of the crackers would take at least two months. JX Nippon Oil & Energy, an oil refining unit of JX Holdings, was also forced to shut a 404,000 tpy cracker in Kawasaki after the quake, but it resumed operations on March 29.

Japan has a combined ethylene making capacity of 7.3 million tons a year, and nearly 17% of that capacity is currently off line due to the closure of the Kashima plants and a maintenance shutdown of Idemitsu Kosan's 374,000 tpy cracker at Chiba. ■

Lanxess Expands Therban Capacities

Lanxess is expanding its production capacities for hydrogenated nitrile butadiene rubber (HNBR) at its facilities in Leverkusen, Germany, and Orange, TX, U.S., by 40 %. This synthetic high-performance rubber is marketed under the brand name Therban. Lanxess will invest a low single-digit million euro amount in the expansion. Expansion work on the German and U.S. production facilities has already begun. The expansion in Leverkusen is scheduled for completion in April 2012, while the Orange facilities will be ready by December 2012. The measures will create 15 new jobs.

Styron to Build New Latex Production Unit in Zhangjiagang

Styron said it plans to expand its latex capacity at its Zhangjiagang, China production facility. The company said the projected additional capacity of latex will help to better serve the growing demand for latex in China's paper and paper board industry, which is projected to grow significantly over the next few years. The new unit, expected to commence production in Q4 2012, will be adjacent to Styron's existing latex manufacturing units at Zhangjiagang, and will complement Styron's other latex production facilities located in Korea, Indonesia and Australia

LG Chem Plans to Build a New Battery Plant

South Korea's LG Chem is set to build its new electric car battery plant in the country, a local newspaper reported. Korea Economic Daily said that the firm's capacity for battery production would expand faster than initially planned if LG completes construction of its third local plant next year. LG Chem plans to boost its annual production capacity at its Korean car battery plant sevenfold to 60 million cells by 2013, with investment of $887 million by that year. The company is believed to announce its plan this month, the paper added.

Samsung LED, Sumitomo Chemical to Set up Wafer JV

Samsung LED, a joint venture led by Samsung Electronics, and Sumitomo Chemical said on Monday they had agreed to form a wafer joint venture. Samsung LED said in a statement that the 50–50 joint venture capitalized at around 80 billion won ($72.02 million) would make sapphire wafers used to make light-emitting diodes (LED). The company plans to build a production plant this year, with mass production from early 2012, Samsung LED added.

BASF to Start MDI Project in Chongqing, China

BASF said it will build a 400,000 metric tons per year MDI (diphenylmethane diisocyanate) project in Chongqing, China. The investment will total €860 million. The facility, which will produce a core component mainly used for polyurethane foams, is expected to start up by 2014.
The project was approved by Chinese authorities, following a stringent examination of environmental, health and safety standards, two rounds of local public consultation and several expert reviews. This state-of-the-art facility will consist of an MDI plant, a nitrobenzene plant and an aniline plant, and will cover 40 hectares. It will form the center of an integrated chemical production complex operated by the Chongqing (Changshou) Chemical Industry Park.

Nigeria Agrees to $10 Billion Investment In Gas, Chemicals

Nigerian President Goodluck Jonathan said he had signed agreements worth around $10 billion over the next three years for investment in gas processing, petrochemicals and fertilizer plants. Jonathan hopes his "gas revolution," launched two weeks before a presidential election, will indirectly create as many as 500,000 jobs, many of them in agriculture, and help improve power supply to homes and manufacturers.
Italian oil and gas firm Agip and local energy firm Oando will build a central gas processing plant under the plans, Oil Minister Deziani Allison-Madueke said, while U.S. energy firm Chevron will supply the gas. "We've agreed to begin with 175 million f^3 of gas per day. We will deliver the gas once the pipelines and infrastructure are in place," Andrew Fawthrop, Chevron's managing director in Nigeria, told Reuters.
India's Nagarjuna Fertilizers said it had committed to building two fertilizer plants, an investment of around $2.5 billion, while Saudi Arabian firm Natpet, a subsidiary of petrochemicals firm Alujain, said it would invest $3.5 billion in a petrochemicals plant.

Yara to Build Ammonium Nitrate Plant in Australia

Norway's Yara is expanding in the mining explosives market by building an ammonium nitrate plant in Australia in a joint venture that creates closer ties with estranged partner Burrup Holdings. The fertilizer and industrial chemicals giant said the plant, in Burrup, Western Australia, would cost about $700 million and have a production capacity of 330,000 tons per year of technical ammonium nitrate (TAN). TAN is the main raw material for the most widely used civilian explosives. The new plant would supply fast-growing iron ore mining operations in the Pilbara region of Australia, Yara said. The construction project will be a 50-50 joint venture between Yara and Burrup Holdings and will require approval by the Burrup Holdings board.

Dow, Befar Group Plan Perchloroethylene JV in China

Dow Chemical, the largest U.S. chemical maker, and Befar Group of China intend to form an equal joint venture to produce perchloroethylene, a key raw material used in non-ozone depleting refrigerants.
Under the memorandum of understanding (MOU), the two firms will explore the development of a new manufacturing plant with an initial target capacity of 40 kilotons a year, and with the ability to double production soon thereafter. The Binzhou, Shandong Province-based plant will likely start production in 2014. Dow and Befar, a chemical raw materials producer, said the limited local supply of perchloroethylene has not been able to meet the rising demand, thus, presenting a "significant market opportunity."

Mobile Calorific Value Measurement

MicroSAM Offers Efficient Solutions for Gas Burner Control

Product – Gas burners of various designs and performance classes are frequently tested and certified with regard to their efficiency and emission levels. These procedures use test gases whose composition and calorific value must be precisely determined.

For this purpose, the Dutch company KIWA Gastec uses a mobile test stand, the central unit of which is the compact MicroSAM gas chromatograph. This solution has proven to be both very flexible and economical. Gas burners are devices with which the chemically bonded energy of a fuel gas – described by its inferior or superior calorific value – is released by means of oxidation.

The essential functions of a burner consist of the delivery and mixture of the reactants (gas and air), the ignition and stabilization of the combustion. The development of modern gas burners is influenced by the demands on design and material, but especially by demands for optimum efficiency with minimal emission of pollutants. To verify their properties, the gas burners are tested on test stands under realistic operating conditions and the test results are generally documented by means of a certificate.

Testing and Certification of Gas Burners

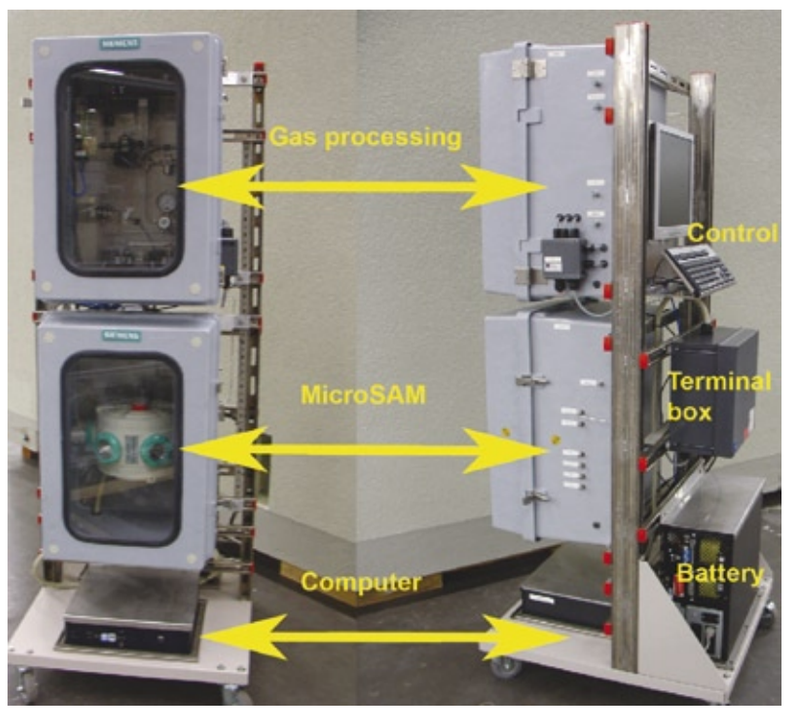
KIWA Gastec is the market leader in Europe in the field of testing and certifying gas-operated devices, including gas burners. The testing is performed on test stands in which the burners are tested in continuous operation using a variety of fuel gases.

KIWA Gastec uses 14 different gas mixtures and two additional calibration gases. The 14 gas mixtures are fed via individual pipes to a total of eight test stands. The two calibration gases are available on a separate gas bottle trolley located next to the mobile test stand. An important factor in assessing the combustion behavior is the precise and reliable analysis of the composition of the fuel gas and thus its superior calorific value.

Special gas chromatographs are used for this purpose that determine the composition of the gas and derive the superior calorific value, standard density, Wobbe index and compressibility value as the quality parameters of the fuel gas using defined calculation procedures.

Mobile Gas Measurement Station

In view of the economical and legal significance of a burner certification, the composition and superior calorific value of the gas types used for the test must be measured with great reliability directly at the test stand and the measurement values must be documented, guaranteeing their assignment to the burner under test. An expensive solution for this would be the permanent installation of suitable test equipment on each test stand. A considerably more economical solution however is offered by a mobile measurement station that can be freely moved around the test hall and connected quickly and easily as required to the respective test stand. Above all, a solution of this kind must meet four requirements:



Mobile measurement station with the MicroSAM gas chromatographs

- The measurement station must be compact and easy to operate in terms of its size and weight.
- The measurement station must be capable of autonomous operation when switching between two test stands, which means it must manage without permanent connections for the power supply or data communication.
- The analytical part of the measurement station (gas chromatograph) must be at least the equivalent of stationary measurement apparatus in terms of separating capability, detection sensitivity and suitability for automatic calculation of calorific value.
- The mobile solution must use appropriate methods so that the possibility of any mistake in assigning the test results to the burner actually tested is reliably ruled out.

The mobile measurement station shown in fig. 1 was developed by Siemens in close collaboration with KIWA Gastec and meets all the above requirements. For its analytical section it uses the MicroSAM gas chromatograph that is based on micromechanical technology and in this case contains special software for determining superior calorific value.

- The mobile measurement station consists of a baseplate on rollers on which a rack frame is mounted with equipment installed on both sides:
- On the front of the frame there are two heated enclosures in which the MicroSAM gas chromatograph and the associated gas processing unit are installed.
- Mounted on the rear of the frame are the operating elements (monitor and keyboard) and the terminal box as well as the battery for non-mains operation while the measurement stand is being moved between two test stands.
- The computer for recording and processing the measurement data is mounted on the baseplate.
- The measurement station also comprises two mobile test gas bottles (not shown in picture).

The MicroSAM gas chromatograph is equipped with capillary columns, valveless metering and column switching and micro WLD detector. In addition, three "measurement methods" are stored in the MicroSAM which are permanently assigned to the measurement tasks at the eight test stands. Each method contains all specifications and values such as time sequences or pressure values for the column switching that the MicroSAM requires for the correct execution of the associated measurements. Thanks to this arrangement, the test engineer only needs to select the measurement method number which indicates which measurement station the test station is currently connected to. This guarantees the required assignment of measurement result to test stand. Similar conditions apply to the two calibration methods.

MicroSAM

Process gas chromatographs are used in countless processes in many industrial sectors, traditionally constructed devices often being mounted in large enclosures and these in turn located in large analyzer shelters. As part of the continuous optimization, however, the user demand for saving space in plants and thus for more compact devices can no longer be ignored. The micro-process gas chromatograph MicroSAM (fig. 2), based on micro system technology – in addition to many other attractive features – offers the advantage of an extremely compact design, roughly the size of a soccer ball, and of low weight. If the MicroSAM is set up together with conventional PGCs, significantly smaller analyzer shelters are required, resulting in considerable savings. In combination with its user-friendly remote operating concept, MicroSAM can also be mounted and operated directly at the sampling point. Even in the case of remote locations with limited infrastructure and restricted maintenance options, the MicroSAM proves to be a good solution. One particularly attractive example of the advantages of such a compact design combined with a high analytical performance is the development of the mobile measurement stations described here.

Analytical performance

A decisive factor for the accuracy and reliability of the measurement values (superior calorific values) achieved is the ability of the chromatograph to completely separate the gas components in question and to demonstrate a high mechanical stability over a long period of time. By means of details of its construction, especially the use of capillary columns in conjunction with valveless column switching technology, the device delivers excellent values.

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MicroSAM micro-process gas chromatograph

India Gets 74 Bids for 33 New Oil, Gas Blocks

India received 74 bids for 33 oil and gas exploration in the country, but the latest licensing round aimed at attracting increased private investment failed to draw big global firms needed to boost the sector. India is wooing private capital for exploration and encouraging local firms to buy stakes in foreign oil and gas projects to meet its surging energy needs. Asia's third-largest economy imports over 70% of its crude and is keen to tap quickly domestic reservoirs.

The failed to attract new bidders among major global energy firms, drawing interest from international companies which already operate in India such as BG, BHP Billiton and Cairn Energy. India is competing with big oil producing countries as far apart as Latin America, Africa and Russia for exploration interest.

BP, which has just bought a 30% stake in 23 Indian blocks owned by Reliance, did not put in a bid. ■

A Competitive Advantage in Analytics

Optimized Supply Processes and Infrastructure

Environmental Awareness – As the standards of living around the world increases, so does the awareness of various forms of environmental pollution. Manufacturing companies, local authorities and engineering firms are increasingly required to investigate in advance whether products, building plots or contaminated sites pose a danger for humans and the environment. Detecting contaminants requires extremely accurate methods of analysis, which are usually carried out by specialist service providers.

There are a numerous processes for analyzing solid materials and liquids. High-purity industrial gases play a crucial role in these processes as carrier gases, combustibles or backflushing gases. For several years now, Eurofins, one of the world's leading companies in the field of analytics, has been relying on supply solutions from industrial gas manufacturer Air Products. Prior to the company's move into its new premises in 2010, it carried out a detailed investigation of all its processes. After all, efficient processes and seamless continual operation of laboratory systems are now crucial in the face of stiff competition in the analytics sector. Thanks to its optimized operational processes and the Cryo Ease supply system from Air Products, the new environmental laboratory in Wesseling, near Cologne in Germany, is one of the most modern in the world.

Environmental Analytics as a Growth Market

Eurofins Scientific is one of the world's leading providers of testing procedures and services covering the fields of pharmaceuticals, food, consumer goods and the environment. Founded in 1987, the company now generates revenues of around $800 million and employs some 8,000 people at 150 locations in 30 countries around the world. It uses approximately 40,000 different test procedures.

Its German subsidiary, Eurofins Umwelt, is a group of top European specialist environmental laboratories. The company specializes in analyzing water, ground and air samples, as well as waste and contaminated sites. It also conducts product analysis and numerous forms of specialist analysis, including combustibles. Every year, Eurofins Umwelt investigates over 400,000 samples from these fields.

The market volume for environmental analytics alone is estimated at around €4 billion. Growth is being driven by rising security requirements from the point of view of consumers and manufacturers, as well as legal regulations and the increased need for companies and organizations to outsource analytics.

Protecting Humans and the Environment from Contaminants and Pollutants

To achieve this, engineering firms and local authorities, as well as industrial companies, focus on analyzing ground and water samples. This is to guarantee that toxic substances do not contaminate the environment, in particular water supplies. Whereas previously, large industrial areas were analyzed and decontaminated, the objective nowadays is not just decontamination but also preventative observation. By regularly conducting ground water sampling and analysis, it is possible to observe nature's ability to regenerate areas itself. In doing so, any environmentally critical pollutants can be identified, quantified and quantitatively analyzed when they start to appear. Therefore, costly purification measures are only carried out when there is an actual need to act.

If a building is to be demolished, engineering firms often carry out analysis in advance of the demolition to determine whether the rubble will be contaminated or not. This means the waste can be disposed of appropriately and selectively. Similarly, investors want to know whether a potentially lucrative investment might turn out to be a waste management fiasco due to ground contamination.

These circumstances all contribute to the necessity for comprehensive sample analysis, as–depending on the different material properties–even traces of some contaminants can cause considerable damage.

Perfect Processes Produce Precise Analysis

The processes in the new Eurofins laboratory are perfectly harmonized. The company is able to cope with the high volume of samples at its Wesseling site while still managing to satisfy quality standards thanks to short routes and an optimized work allocation system.

"Reorganizing from three floors to one has already produced significant efficiency savings," said Dr. Hartmut Jäger, technical director at the Wesseling plant.

Previously, individual employees performed several stages on one sample. Now, considerable benefits have been gained from dividing tasks into sensible substeps. And quality has improved as each employee is able to concentrate on the relevant work processes. Moreover, work process can be accomplished much more quickly and effectively. Around 120 staff at the Wesseling site ensure that operations run smoothly and the best possible test results are achieved.

When the cooled samples arrive, they are labeled with a barcode and details are entered into the LIMS computer system (laboratory information and management system). The saved data determines the precise stages that a sample will then go through. Solid materials are first mechanically prepared and then if necessary, just like liquid samples, extracted using solvents or mixed with water in order to determine any possible ground water contamination. This preparation stage allows subsequent analysis to be carried out using various test procedures to identify and quantify every chemical compound. As a general rule, clients tend to request the analysis of approximately 30–40 compounds.

High Purity Gases and High-Tech Apparatus

When investigating samples, spectrometric and gas-chromatographic procedures are often used. As part of inductive coupled plasma analysis (ICP), the sample is fed into ultra-hot argon plasma. The light emitted from the atoms (ICP-OES) is then analyzed to determine the composition of the sample. Newer routine methods now enable ICP to be coupled with mass-spectrometers as trace analyses detectors that have extremely sensitive levels of detection compared to traditional, optical ICP devices. ICP-MS and ICP-OES are primarily used to analyze elements in all sample matrixes. The three ICPs operated at Eurofins alone consume around 50 liters of argon per minute.

Another method used to analyze organic compounds is gas chromatography (GC). The sample is sprayed into the gas chromatograph and is transported by a carrier gas – usually high-purity helium – through the analysis machine. The GC/MS process uses a mass-spectrometer linked to a gas chromatograph. This allows selective detection with detection levels lower than can be achieved using traditional GC.

The majority of test results are automatically entered into the LIMS after being validated by qualified employees; the results are then assigned to the relevant samples. The outcome is an extensive test report which is validated once more by an experienced test leader before being sent to the client to provide them with detailed information regarding the chemical composition of the samples submitted. The samples are then transferred to an archive, if necessary, in order to be available for further investigations.

To ensure the laboratory facility is used most effectively, automated processes guarantee 24 hour operation. These processes are controlled by the LIMS computer system.

"It is expensive to stop operations," Jäger said. "Our most important method of leveraging a commercial advantage is to increase and improve productivity. We therefore place considerable emphasis on processes and cost factors."

Gas Supplies at the Heart of Analytics Operations

In order to keep on schedule without affecting quality, especially with large numbers of samples, operational processes and infrastructure must be perfectly aligned with one another. This is due to ever-increasing demands for accurate analysis, quicker processing times and higher levels of productivity. A reliable high-purity gas supply is crucial for ensuring quality and the optimum cost structure. Large volumes of argon and helium are required, so are oxygen and hydrogen as combustible gases. Nitrogen is also used as a backflushing agent. Without these consumables, important areas in the production facility come to a halt.

The laboratory is supplied with the gases it requires via a pipeline to the point of use from a central gas storage facility.

In addition to using helium cylinder bundles, Eurofins relies on Cryo Ease service tanks from Air Products for the large volumes of argon it requires. The Cryo Ease system uses tanks with capacities of between 200 and 2,000 l. This supply principle removes the need for time-consuming gas cylinder exchanges as well as shipping and handling. It also reduces the administration associated with ordering. Cryo Ease tanks are refilled automatically in regular intervals. The fleet consists of small tankers that can easily access even hard-to-reach locations. Filling is automatic and does not require a special order. In this case, the gas consumed the most is liquid argon (500 l per week). Thus, a 1,000 l Cryo Ease service tank easily covers the total supply requirements.

"The Cryo Ease supply service represents a profitable and easy alternative for large consumers. It closes the gap between delivery of liquid gases for large tanks and supplies in gas cylinders. This supply system makes sense for a plant consuming more than 10 large cylinders per month. That is why, in the face of stiff competition in the analytics market, the delivery service makes an important contribution to ensuring the competitiveness of companies such as Eurofins," Terry O'Reilly, Business Manager for Cryo Ease Europe at Air Products said. At the same time, storage space requirements are also reduced because a Cryo Ease service tank can replace up to 125 gas cylinders. It only takes a few hours to install and very little preparatory work is required.

Well-Placed For the Analytics Market

Thanks to the new laboratory, its revised processes and the well thought-out infrastructure, Eurofins is now well-positioned to tackle future challenges in the analysis market.

"We do not expect any dramatic changes in the quantities and type of analysis we carry out; therefore, our laboratories can integrate newly arising trends, such as perfluorinated tenside (PFT) analysis, into existing processes. There should also be no shortages of our most important raw materials, industrial gases, even if volumes change," Dr. Jäger said.

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Japan Quake to Boost 2011 Global Chip Sales by $5 Billion

Global semiconductor sales are likely to grow by 7% to $325 billion this year, as last month's earthquake in Japan boosted prices of computer memory chips, research firm IHS iSuppli said. IHS iSuppli raised its forecast for global chip revenue for 2011 to $325.2 billion. In February it forecast a 5.8% increase to $320.1 billion. It expected dynamic random access memory (DRAM) chips to be most affected by an unexpected rise in selling prices triggered by supply disruptions following the earthquake. iSuppli forecast sales of DRAM chips to shrink by 4% this year versus a previous expectation of a 10.6% reduction. verage contract DRAM prices may rise by up to 2% in April, compared with a previously expected 3 to 4% decline, and pricing pressure should ease in the second half of the year, it said. Japan supplies more than one-third of NAND-type flash memory chips, used in tablets and smartphones, and 14% of DRAM. It is also home to the world's largest producer of silicon wafers used to make semiconductor, accounting for about 60% of global supply. Top wafer supplier Shin-Etsu suffered a production loss after the quake and tsunami hit its plants, which account for 20% of global wafer output ■

LG Chem Lifts Car Battery Sales Target, Investment Plan

South Korea's LG Chem raised its 2015 sales target for electric car batteries by a third to 4 trillion won ($3.7 billion) and doubled its investment plan for the product to 2 trillion won by 2013 to reflect strong order growth. The investment would enable LG Chem, which supplies batteries for General Motors' Volt plug-in hybrid, to boost production capacity to more than 350,000 batteries, from 100,000 this year, the company said. LG Chem has secured battery supply deals with ten carmakers, including GM, Ford Motor, Hyundai Motor and Renault. The investment and sales target increase come as high oil prices are expected to boost demand for low-emission electric and hybrid vehicles, although hurdles remain for the immediate take-off of the electric car market because of high prices and a lack of charging infrastructure.

GM said it sold about 1,000 Volt cars in the first three months of the year, although it previously said it planned to produce 10,000 units by the end of 2011 and 45,000 in 2012. ■

A Green Value Chain

From Sourcing to Packaging, Sustainability is a Vital Component

Sustainable From Beginning to End – With the naturals trend pushing boldly forward, the time when natural products claim a stalwart position in the industry and become a part of consumers' way of life might not be far away. Naturals have become a key growth platform for the personal care industry, as consumers are more informed about product ingredients.

However, product composition alone is no longer the only important factor driving purchases. With growing environmental awareness among consumers, the desire to know that the products they buy have been produced in a sustainable manner has also increased.

Why Is Everybody Talking About Sustainability?

Companies and consumers in every industry are becoming increasingly aware of sustainability issues. Their understanding may be focused on concepts such as "green," "natural" and "organic" — all buzz words so often heralded by the media, retailers and our governing bodies. However, media hype is only part of the driving force behind the growth of the naturals market. Primary drivers of growth include a global change in consumer behavior and attitudes, new product development, and the mainstream convergence of the natural/organic trend.

Media coverage regarding the damage that industry and human activity is doing to the environment has stimulated much discussion about the need for sustainable manufacturing. According to the Global Language Monitor, which tracks global language trends, "climate change" was the top phrase of the decade 2000-2010. Similarly prominent was "sustainability," which made it to the top of the 20 most used words list during that same decade, evidencing the fact that awareness is growing in regards to the integral role sustainability plays in both business and everyday life. This includes interest in sustainable sourcing of raw materials, the preservation of human rights, fair trade, indigenous communities, and other social aspects.

Natural Sells

Sales of natural personal care products grew by 14% in 2008. In 2009, the recession slowed this growth down; however, the segment still posted a 9% gain despite the unfavorable economic conditions. In 2010, the segment posted over 14% growth at the manufacturers' level. With overall growth rates in the naturals industry expected to increase post recession and average out at just over 12% through 2014, suppliers are working hard to develop natural ingredients to meet demand. While progress has been made in some ingredient categories to deliver the natural positioning and performance required, some categories remain a challenge.

Surfactants

One area within personal care which has historically been a "non-natural" business is surfactants. Of the $600+ million specialty surfactants market, only about 10% of the raw ingredients available in this category are naturally derived. However, sustainable and naturally derived surfactants are now gaining traction in the mass personal care market. On average, natural surfactants are growing at around 4% at the global level in contrast to their synthetic counterparts whose outlook is less rosy at 2%. Similarly, fixative ingredients used in hair sprays and other hair styling products are a big challenge when it comes to developing an effective, natural alternative. Synthetics make up 99% of the active ingredients in the fixatives market.

Substantiated Specialty Actives

On the other hand, other personal care ingredients are much more readily available in natural form. Substantiated specialty actives are a unique class of ingredients which are 100% naturally derived. These ingredients, including peptides, bio-tech actives and enzymes, and their associated claims, are key to formulators making anti-aging products in the luxury, high-end mass market, professional and specialty trade classes.

Emollients

Similarly, emollients, which are among the most widely used ingredients in personal care, are more readily accessible and affordable to derive from natural sources such as minerals and vegetable oils. As a result, naturally derived emollients make up around 55% of the total emollients market. A strong shift away from animal-based proteins in favor of plant-derived proteins is also taking place in the conditioning proteins market, where more than 60% of the market now consists of plant-derived products.

Various Shades Of Green

As the appeal of naturals grows, manufacturers are pushing the envelope of what passes for natural in order to get on the bandwagon. Kline's ingredient analysis finds that nearly 74% of so-called natural personal care products are not so natural after all. The overwhelming majority is considered "natural-inspired," and mostly comprises of synthetics with just enough natural ingredients thrown in to take advantage of low consumer differentiation. While a pan-European standard for natural certification is brewing, currently the lack of explicit standards that define the degree of naturalness in most markets makes it possible for manufacturers in some countries to call any of their products "natural." A high proliferation of naturally inspired products exists in the Brazilian naturals market, where only 3% of products on the market are truly natural. On the other hand, in the U.S., 44% of the naturals market is truly natural.

Making a declaration about going green and embracing sustainability in a company's mission statement is one thing, while a true commitment to the cause is another. Just as gaps remain in providing clear certification for truly natural products, measuring sustainability is also challenging. In order to try and provide a measure of sustainability, a number of ratings have been developed. The Dow Jones Sustainability Index and Climate Counts are just two examples. Kline's recent global study Natural Personal Care adopts a 10 point rating system to identify brands truly committed to sustainability. Among criteria analyzed are environmentally friendly manufacturing practices; promotion of sustainability through the value chain; possession of eco-friendly chemistry; promotion of environmentalism among employees; and alignment with channel partners who share the same values.

Is Natural Always Sustainable?

A green image is more often spoken about by the media than a sustainable image. While there is a connection between offering natural products and being perceived as an environmentally friendly company, the two do not often go hand-in-hand with each other.

Interestingly enough, the degree to which products are truly natural does not always coincide with the level of sustainable practices involved in their production and vice versa. Kline's research on natural personal care clearly shows that there is a disconnect between some brands' natural product offerings and their degree of sustainable practices. Several companies that practice rigorous sustainability are selling products that score lower on the natural scale. However, the differences are not vast. For example, the highest truly natural scores often have medium-level sustainability practices.

Sustainable Benefits

Although "natural" and "sustainable" are preoccupying themes on the personal care market, they have often been overshadowed by other concerns including profits, growth and competitiveness. As a result, the question "what makes natural personal care an attractive market and why does sustainability matter" has preoccupied many marketers. First of all, the natural personal care market has experienced very strong growth when compared with personal care market as a whole, even though it is a much smaller segment. A natural positioning with well-integrated sustainable measures offers market appeal that speaks to the environmentally conscious customer and provides a way to differentiate and extract value in a competitive market. Drivers have been strong enough to entice major marketers to expand into the natural segment via key acquisitions.

Contrary to popular belief, adopting sustainable practices does not necessarily mean incurring higher costs. Conforming to the strictest standard globally actually saves companies money. When enterprises comply with the least stringent standards, they must manage component sourcing, production and logistics separately for each market, as compliance rules differ by country. However, companies that enforce a single norm worldwide benefit from economies of scale and can optimize supply chain operations.

A Market Open to Green Products

With more information at their fingertips, consumers are more than ever before looking at product labels to scrutinize their contents. The current market is open to truly green products which have comparable efficacy to standard formulations. The green wave is having a transforming impact on the industry and it appears that in terms of the future, there is no alternative to sustainable development. However, this can be interpreted by manufacturers and formulators as a favorable opportunity rather than a burden, as compliance to sustainability norms can be lead to the development of new, successful and innovative solutions.

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The Long And Winding Road to Harmonization

An In-depth Look at the Authorization of Biocidal Products

Complex Legislation – Art. 5 of the Biocidal Products Directive (BPD, 98/8/EC) lays down the procedure for the main authorization and registration of a biocidal product. Art. 16/1 provides that member states who had a system or practice in place for the marketing of biocidal products at the time Directive 98/8/EC came into force can prolong this extra system until the review of the active substances (transition period) has been completed (which was supposed to be 2010 but was prolonged until 2014).

Only a minority of member states have only minor or no real extra regulation besides the one based on the EU regime. Most member states cover the full range of product types as listed in the BPD and others only cover a part or have exceptions in certain product type categories.

A Big Mix

With 27 member states in the EU, most having also different approaches in the several national schemes, this creates a great mix of different, non-harmonized regulations for one and the same purpose. This of course leads to a variety of misunderstandings and marketing problems for companies, and it requires lots of resources from industry as well as from the national competent authority (CAs) in the member states.

The situation has become even more complex since the EU made its first BPD Annex I/IA inclusion decisions and first authorizations according to Art. 3-8 of the BPD have been granted in member states. That's because there is a strong interaction of these decisions with these national – extra – procedures.

It is essential not only for the industry but also for the CAs of other member states to understand and learn from each other in regards to the handling of national product authorizations in the "transition period" between publication of an Annex I decision in the Official Journal of the European Union and the formal inclusion date two years later. They should also take lessons from each other during the transition between Annex I inclusion and the BPD product authorization.

Having currently about 4,000-5,000 entries in the Community Register for Biocidal Products (R4BP) system for product authorizations, registration or mutual recognition under the BPD regime, it is a struggle to find the way through and keep track of the various systems and requirements of the several national procedures in addition.

Authorization Process under the BPD

Primarily, industry needs to understand member states' opinions on any cut-off date for receipt of product applications (for the purposes of evaluation and decision making) under their current national schemes and whether member states will still allow administrative changes to existing products during the BPD evaluation. If this leads to discouragement of applications for authorization under national rules or even to archiving of applications within the system in this transitional period, it would only double efforts on both sides with less or no gain in the field of product safety or time spent.

The Commission has developed a note for guidance that outlines the product authorization process under the BPD. This note sets out guidance on procedures and timescales for action following decisions on Annex I or IA inclusion (or non-inclusion) but unfortunately it doesn't reflect the subject of national authorization in this time period as this is a national task. So there are particular concerns on how industry can or should act under existing national schemes, in advance of the formal Annex I inclusion date for an active substance.


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As the main requirements to fully implement the BPD do not really start until an active substance is formally included into Annex I (date of inclusion) of the Directive for potential use for that specific product type, this is the date on which any existing national scheme is in principle superseded by the requirements of the BPD and some implementing legislation in the MS implicitly states this.

The formal Annex I inclusion date (for that specific product type) is also the very last date for the receipt of an application for the BPD authorization of a biocidal product already existing on the national market of the member states.

Up to the date of Annex I inclusion, a CA of a member state could be working on the evaluation of a biocidal product containing the active substance in question (in the same product type for its future Annex I entry) for potential authorization under its existing national scheme.

Given that the evaluation of a biocidal product sometimes takes some considerable time (and that the timescale for evaluation and an authorization decision varies from one member state to another), it is unlikely that any such application would be submitted just on the day before the formal Annex I inclusion.

Staying in the Dark Detrimental to Markets

However one of the main questions is to clarify the interaction with the BPD regime and the "cut off" date for such applications to be submitted and accepted by a CA under its current national authorization schemes. Not speaking of the need of any amendments to the authorizations of existing products during the evaluation period of the BPD product dossier.

Staying in the dark in these issues could lead to "freezing" markets or a "no launch" of new products or even to a lack of substantially needed products.

Therefore the Austrian Ministry of Environment – supported by several other CAs and stakeholders – initiated a two-day symposium systematically focusing on the details of existing national systems or practices in place for marketing biocidal products in certain member states (see infobox). But also the experiences gained and the interaction with the main Authorization/registration procedures according to Art. 3 to 8 of the BPD (98/8/EC) will be a major issue as well as some aspects of letters of access and data protection.

Symposium by the Austrian Ministry of Environment on National Schemes and Practices in place for Biocidal Products
When: May 19-20
Where: Vienna, Hotel Modul

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Steven Holland to Succeed Stephen Clark as Brenntag CEO


Steven Holland


Stephen Clark


William Fidler

Steven Holland, currently chief operating officer of Brenntag, will take over as chief executive officer on June 22. Holland joined Brenntag in 2006 following the acquisition of Albion Chemical Distribution Group, where he had been CEO. In addition, William Fidler, president and CEO of Brenntag's North American business, will join the management board with immediate effect. In his new role, he will be responsible for Brenntag's North and Latin American business. Stephen Clark will step down as CEO of Brenntag and be proposed for election to the company's supervisory board. Clark will succeed Thomas Weinmann, one of the major shareholder's representatives in the supervisory board. Brachem Acquisition will reduce the number of its supervisory board members after having significantly reduced its stake in Brenntag over the past 12 months through an IPO and two successful secondary placements.

Kevin Cook Appointed API Managing Director of Aesica

Pharma manufacturer Aesica has appointed Kevin Cook as managing director of its Active Pharmaceutical Ingredient (API) business unit. Cook will be based out of the company's head office at Quorum Business Park and will lead the business development team to promote the company's API service offering and extensive capabilities. His key area of focus will be to significantly grow the API business unit through the introduction of new product lines utilizing existing assets and expansion through acquisition into India, Asia and further expansion across the U.S.

Evonik Adds 3 More Members To Executive Board


Patrik Wohlhauser


Dr. Thomas Haeberle


Dr. Dahai Yu

As of April 1, Evonik has increased its number of executive board members from three to six. Patrik Wohlhauser will be the executive board member responsible for the Consumer, Health & Nutrition segment; Dr. Thomas Haeberle will be responsible for the Resource Efficiency segment and Dr. Dahai Yu for the Specialty Materials segment. The three join CEO Dr. Klaus Engel, CFO Dr. Wolfgang Colberg and Chief Human Resources Officer Ralf Blauth.

Briain de Buitleir to Head P&G and Teva OTC Venture

Procter & Gamble and generic drugmaker Teva Pharmaceutical Industries are joining forces to sell over-the-counter medicines as both companies try to expand their reach, particularly in developing markets. The venture's chief executive officer, Briain Debuitleir, and chief financial officer, Markus Xander, will come from P&G. Its chief operating officer, Eli Shani, will come from Teva. Tom Finn, president of P&G's health care business, will serve as chairman of the partnership and joint venture

Ashland CEO Out After Surgery

Specialty chemicals company Ashland said Chairman and Chief Executive James O'Brien had surgery to fix a perforated colon and be out for two to three months. The company said he would be available on "a limited basis" until his full return. Lead director Barry Perry will be interim chairman, while CFO Lamar Chambers and general counsel David Hausrath will assume his executive duties, Ashland said.

Reliance's Mukesh Ambani Appointed to Bank of America Board


Mukesh Ambani

Bank of America named its first non-American board member, appointing Mukesh Ambani, an Indian national, as a director of the largest U.S. bank by assets. Ambani has headed Reliance Industries, a petrochemical company that is India's largest private business with $44.6 billion in annual revenue, since 2002. His appointment is the latest step in Bank of America's transformation into a more globally-focused company after acquiring investment bank Merrill Lynch & Co in 2008.

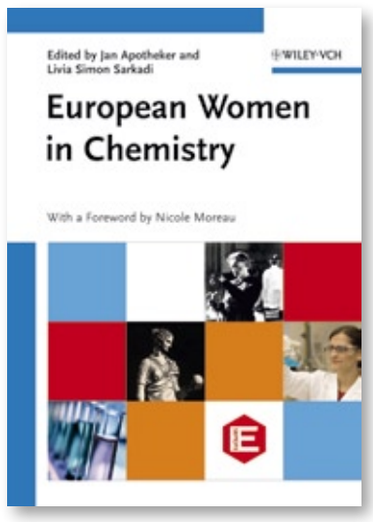
Celesio's Chief Executive Fritz Oesterle to Step Down


Fritz Oesterle

Fritz Oesterle, who has had a strained relationship with the company's majority shareholder, is stepping down after more than 12 years in office. "Fritz Oesterle ... will retire from his office in amicable mutual agreement with the supervisory board as of June 30," the German drugs distributor and pharmacy operator said in a recent statement. Celesio's dealings with the German industrial and retail conglomerate Haniel, which holds just over 50% in Celesio, have not been easy. Celesio's management has been frustrated by receiving mixed messages from Haniel about how much in Celesio it plans to hold in the future, sources close to Celesio have said. Talks between Shanghai Pharmaceutical and Haniel over the possibility of the Chinese company acquiring a large stake in Celesio have cooled, sources told Reuters. In 2009, Oesterle ruffled the feathers of Haniel's management by the way he managed the acquisition of Brazilian drugs wholesaler Panpharma, but subsequently managed to smooth over the rift.

Giveaway

European Women in Chemistry



The official book of the EuCheMS societies for the International Year of Chemistry, European Women in Chemistry highlights over 50 remarkable women who have been pioneers as women in science and in the vanguard of the development of chemistry. It looks not only at the scientific story, but the personal sacrifices and societal opposition that many of these great women scientists had to overcome to make their mark in the early days of chemistry. Some of them are famous and still well-known, such as Nobel Prize winner Marie Curie. Others have contributed significantly to science and lived an extraordinary life, but are nowadays not remembered. This book covers one of the main topics of the IYC 2011 and is a tribute to all European women in chemistry. The book includes a forward by IUPAC Executive Committee President Nicole Moreau. European Women in Chemistry

▶ European Women in Chemistry
Jan Apotheker, Livia Simon Sarkadi
Wiley VCH
ISBN: 978-3-527-32956-4
Paperback
256 pages
March 2011
€24.95

We are giving away four copies. To enter, please send your name and address per e-mail to CHEManager-Europe@gitverlag.com by May 9. Be sure to include "European Women in Chemistry" in the subject line. Good luck!

The Triple M of Organizations: Man, Management and Myth

What does management have to do with myths? And how does gender enter the stage? This book identifies frequently used key arguments in gender discussions on management and organizations and will unmask them as myths. Be it that management is rational, be it that organizations are gender-neutral, be it that women will change technology – this book shows these be a set of superficial declarations not withstanding critical scrutiny. All the "reasons" for gender-specific organizational phenomena will be proved to exist simply to maintain power structures and thereby systematically (but subtly) reproduce dominant organizational cultures and stabilize taken-for-granted knowledge in particular with respect to gender issues. The demystification of selected organizational phenomena is based upon several of the author's recent research projects and empirical studies.

▶ The Triple M of Organizations: Man, Management and Myth
Edeltraud Hanappi-Egger
SpringerWienNewYork
ISBN: 978-3-709-10555-9
Hardback
197 pages
€42.75

Innovate Your Company

Consulting experience and a feeling for trends is the basis for this book, written by the global head of consulting firm Arthur D. Little. Seven trends form the framework for a book that tells about recent insights, ideas and approaches to innovation in different contexts and under different perspectives. The author is sure that innovation still has a lot in stock for companies who are open to it and willing to change. Many different influences and trends ask for new ideas and the author found many examples were these trends have been used successfully by companies around the world.

Readers will profit from the examples and case studies. The more they understand what will be going on in the mid and long term, the more they are enabled to prepare and act accordingly.

▶ Innovate Your Company:
Trends to Follow for a Competitive Advantage
Michael Traem
Wiley-VCH
ISBN: 978-3-527-50522-7
Hardback
164 pages
€29.90

CeMAT 2011, May 2-6, Hannover, Germany

CeMAT will open against a background of accelerating economic recovery. The world's leading trade fair for intralogistics is taking place this year under the tagline "Sustainability in Intralogistics." Following a decline in sales in 2009 and 2010, the industry is expecting to see 9% growth in turnover during the current year. Companies right across the industrial spectrum are starting to invest in logistics again. CeMAT will clearly benefit from this upturn during its five-day run and will in turn help to drive business growth across the industry.

▶ www.cemat.de

Chemspec USA, May 3-5, Philadelphia, USA

Chemspec USA is brought to you by Chemspec Events, organizers of international fine, custom and specialty chemicals events since 1986. With over 20 years experience, Chemspec Events now brings its highly successful Chemspec show to the United States. With Chemspec Events taking place in Europe, India and the Middle East, the North American market is a natural extension to the Chemspec portfolio. Exhibitors will represent a broad spectrum of the fine, custom and specialty chemicals markets from sectors such as pharmaceuticals, crop science, custom manufacturing, green chemistry, biotechnology, personal care, water treatment and many more.

▶ www.chemspecevents.com

CESIO 2011 – 8th World Surfactant Congress and Business Convention, June 6-8, Vienna

The CESIO 2011 will be the opportunity to meet and exchange with colleagues, customers and business partners from all over the world. Sessions, posters and exhibitions will cover the scientific, economic, technical as well as safety and regulatory aspects of surfactants and their industrial and consumer applications.

▶ www.cesio-congress.eu

LOPE-C – Large-area Organic and Printed Electronics Convention, June 28-30, Frankfurt

LOPE-C is the official annual conference and exhibition of the OE-A (Organic and Printed Electronics Organization). LOPE-C 2011 will cover the latest commercial and technological achievements in organic, inorganic and printed devices, systems and materials. LOPE-C represents the entire industrial value chain – from academic research to R&D to production to commercialization to end-user cultivation. In addition to the high-level business and technical conference with noted speakers from academia and industry, plus keynotes sessions and pre-conference seminars, LOPE-C 2011 will feature an industry exhibition providing a comprehensive overview to showcase the rapidly emerging products, services and global manufacturing capacities in organic and printed electronics.

▶ www.lope-c.com

Pharma ChemOutsourcing, Sept. 12-15, Long Branch, NJ

ChemOutsourcing is a unique, annual pharmaceutical chemistry show. We host a conference with over 100 speakers, mostly chemists from pharma and biotech companies, and an exhibition for 100 chemistry service providers. It is held at a beachfront resort in New Jersey, the epicenter of the life sciences and chemical industries. Every year, increasing numbers of small molecule biotechnology company chemists are speakers and attendees at the show. The conference discussions center around chemistry sourcing/outsourcing, process R&D, chemical development, CMC, procurement, medicinal chemistry, drug discovery and new chemical technologies.

▶ www.chemoutsourcing.com

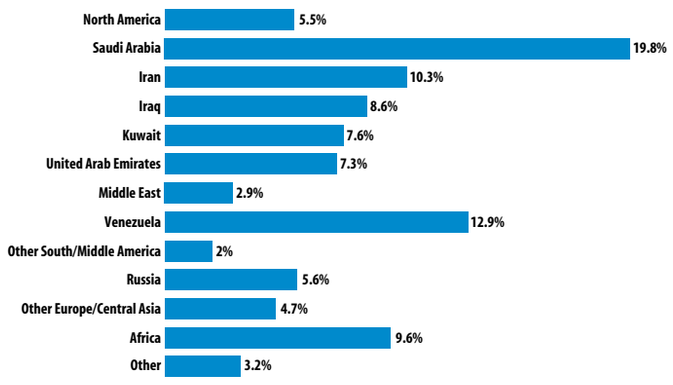
Pharma Outsourcing and Procurement 2011, Sept. 26-27, Berlin

Pharmaceutical outsourcing is growing exponentially amidst challenging price restrictions, US health care reforms and reduced revenues. The Pharma Outsourcing and Procurement Summit 2011 addresses the urgent need for pharma to identify and locate the best outsourcing partnerships and solutions to stay competitive in an uncertain climate whilst addressing heightened regulatory pressures and the need to maintain high quality standards.
Attend the summit to address your growing outsourcing requirements in contract manufacturing, bulk, fill and finish, drug delivery and formulation and research & development API sourcing.

▶ ww.ousourcingevent.com

Fossil Fuels – Coveted and Finite

Distribution of worldwide oil reserves (2009)

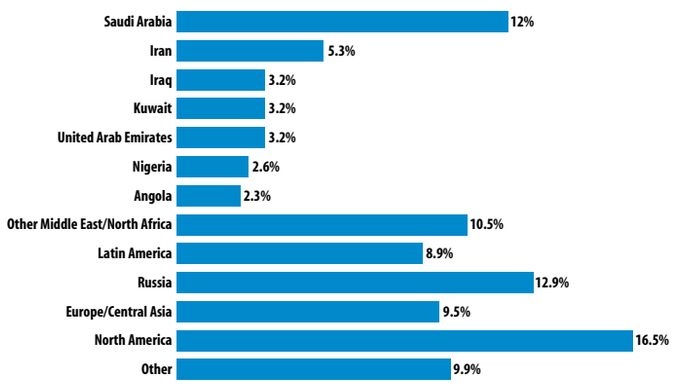


Source: BP, German Chemical Industry Association (VCI)

Global Oil Reserves

One of the biggest challenges in the chemical industry is securing raw material supplies at reasonable prices. Due to population growth and Asia's ever-increasing thirst for raw materials, indications of bottlenecking are becoming visible. Despite intensive research involving other fossil fuels and renewable resources, oil remains one of the most important carbon-containing raw materials for the chemical industry, at least for the mid-term. About 57 % of the world's known oil reserves can be found in the Middle East, one third of which in Saudi Arabia.

Distribution of worldwide oil production

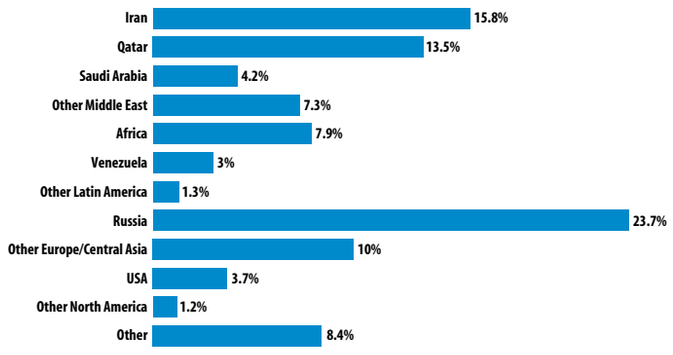


Source: BP, German Chemical Industry Association (VCI)

Global Oil Production

Today's available oil supplies (meaning those that are geologically secure and are feasible to produce with today's technology) are projected to last for about another 45 years. The biggest single producers are Russia and Saudi Arabia. In order to extend current supplies, new means of production are being researched that could possible increase the yield. The degree of deoiling of fossil localities is about 40 % with today's technology. The chemical industry itself is currently developing chemicals that will help to better utilize these fossil localities.

Distribution of worldwide natural gas reserves

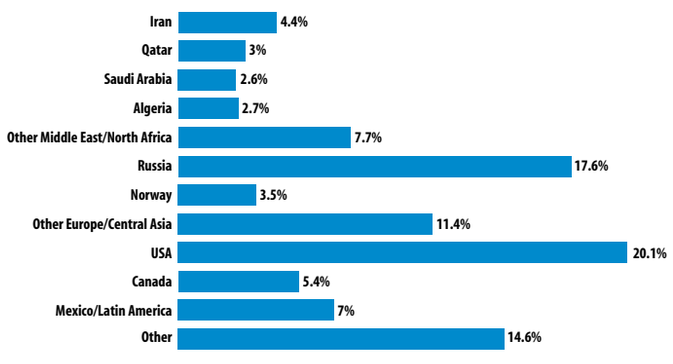


Source: BP, German Chemical Industry Association (VCI)

Global Natural Gas Reserves

Today's available natural gas supplies are projected to last about 63 years, 20 years longer than oil. This, however, could possibly be expanded when other resources are taken into consideration. There are currently many natural gas reserves that are not geologically secure and/or cannot currently be utilized with today's technology. Many have high hopes for resources from non-conventional natural gas, such as gases in dense reservoirs, in porous layers of stone that contain saltwater, in coal mines where natural gas can be found in the stratum layer, as well as in methane hydrate in the ocean's sediment.

Distribution of worldwide natural gas production



Source: BP, German Chemical Industry Association (VCI)

Global Oil Natural Gas Production

The world's largest producers of natural gas are currently Russia and the U.S. Natural gas is gaining importance as a means to make short-chained olefins, an important basic material in chemicals. Currently, natural gas only plays a secondary role as a chemical raw material. However, natural gas is becoming an important replacement for oil, especially as the oil reserves become scarce. Increased use of natural gas as a raw material in the chemical industry is a challenge for modern chemistry, catalysts and process engineering.

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Automakers Face Paint Shortage after Japan Quake

Merck's Xirallic is only produced in ist Onahama plant, which has been closed due to infrastructure damage after the March 11 earthquake in Japan.

The shortage of a specialty pigment that gives cars a glittering shine has prompted automakers to temporarily restrict orders on vehicles in certain shades of black, red and other colors.

Major automakers, including Chrysler Group, Toyota Motor, General Motors and Ford Motor use the pigment, called Xirallic, produced at only one factory in the world – the Onahama plant near the Fukushima-Daiichi nuclear power station in Japan.

The plant is operated by German chemical company Merck KGaA, and has been evacuated. Merck spokesman Gangolf Schrimpf said the company does not know when it will be permitted to reopen the plant, which was closed soon after the March 11 earthquake.

Chrysler told dealers it was restricting orders on vehicles in 10 colors, including two variations of black and three of red. Ford is slowing production of vehicles in "tuxedo black" and three variations of red.

Chrysler spokeswoman Katie Hepler called it a "precautionary measure" and said the company did not expect any effect on production at this time.

"We anticipate that we currently have an adequate ... supply to meet existing customer orders," Hepler said in a statement. She said other colors being restricted were Bronze Star, Rugged Brown, Hunter Green, Ivory and Billet Silver.

Ford dealers will not be able to order black Expeditions, Navigators, F-150 pickup trucks and its Super Duty pickup, Ford spokesman Todd Nissen said.

He said Ford was exploring other materials that could produce the same shiny effect as Xirallic. Ford is also working with Merck to see if the pigment can be produced elsewhere.

Merck's Schrimpf said it would be difficult to transfer production to another plant. After repairs, it will take between four and eight weeks to resume production, he said.

Toyota spokesman Mike Goss said the company uses the pigment, but as far as he knew it had not restricted orders.

The earthquake and ensuing tsunami and nuclear crisis have revealed flaws in "just-in-time" production, which involves keeping low quantities of parts and supplies on hand to avoid high costs. A shortage of parts from Japan has prompted automakers like GM to temporarily halt production at assembly plants in North America.

■

A Look Ahead

Here are some of the stories awaiting you in our May issue:

- *Current status and future developments of bio-based plastics in Asia*
- *How the pharmaceutical industry can profit from the automotive sector*
- *Facing new challenges on innovation based on sustainability*
- *Interview with Shanna Moore, DuPont's global director for sustainable packaging materials*

Coming out on May 12!

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