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Strategy

Digital Transformation, Business Process Management, Supply Chain 4.0, Distribution and Logistics Industry News

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Market Trends in Chemical and Pharmaceutical Logistics, Supplying Emerging Markets, Expert Opinions on Major Drivers

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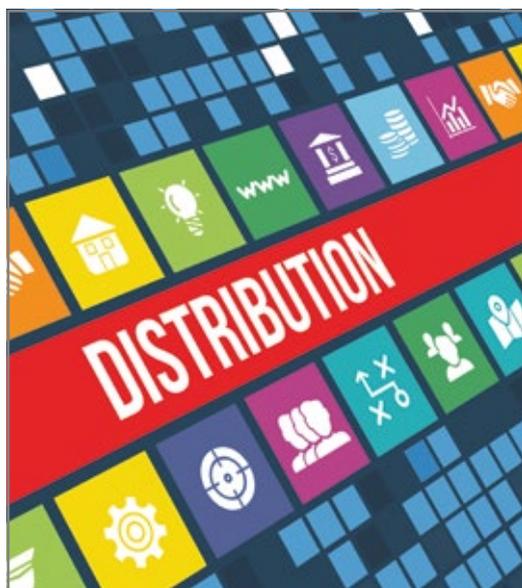
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Transformation of the Economy — What Is in for Me?

For Chemical Distributors, Adapting to Market Trends and Customer Expectations Is Essential to Stay in Business

Everywhere in business today, customers, suppliers, employees, shareholders or owners, consultants and other pundits, and also the media seem to only have one topic. It is “digitalization” and the upheaval it will bring. These perceived and sometimes even real changes, currently impacting the economy in general, are having an influence on the chemical industry and within that also the chemical distribution industry.

The changes come in virtual form, labelled “Chemical Industry 4.0” and “Digitalization”, and also in physical form, as the “Circular Economy”. Some perceive them as a threat. But they can also be seen as an opportunity, just like all those changes over the last centuries, which have at any one time challenged the status quo. Now, as back then, adapting to market trends and customer expectations is essential to stay in business.

A Short Look Back

Trading and distribution companies have long played a significant role in opening new markets and developing additional sources of supply for the emerging global economy.

Since the early years of chemical production in the 1860’s, when everybody was mostly producing locally around the raw material sources, the need for specialized traders for

these products to establish additional and often further away markets was there. That continued through the first half of the 20th century when transcontinental trade was expanding, particularly after WW II.

During the “globalization and specialization” of the chemical industry since the 1980’s and the cost-optimizing and outsourcing efforts of the last 20 years, the chemical distributors became an important marketing and sales arm for the product supplier, more and more a specialist for the downstream markets, but also a partner of the customer, with in-depth application knowledge adapting to technologies available. Small and medium-sized customers value this, but also the “one-stop-shop” capabilities for several products needed for their formulation, not necessarily supplied by a single producer.

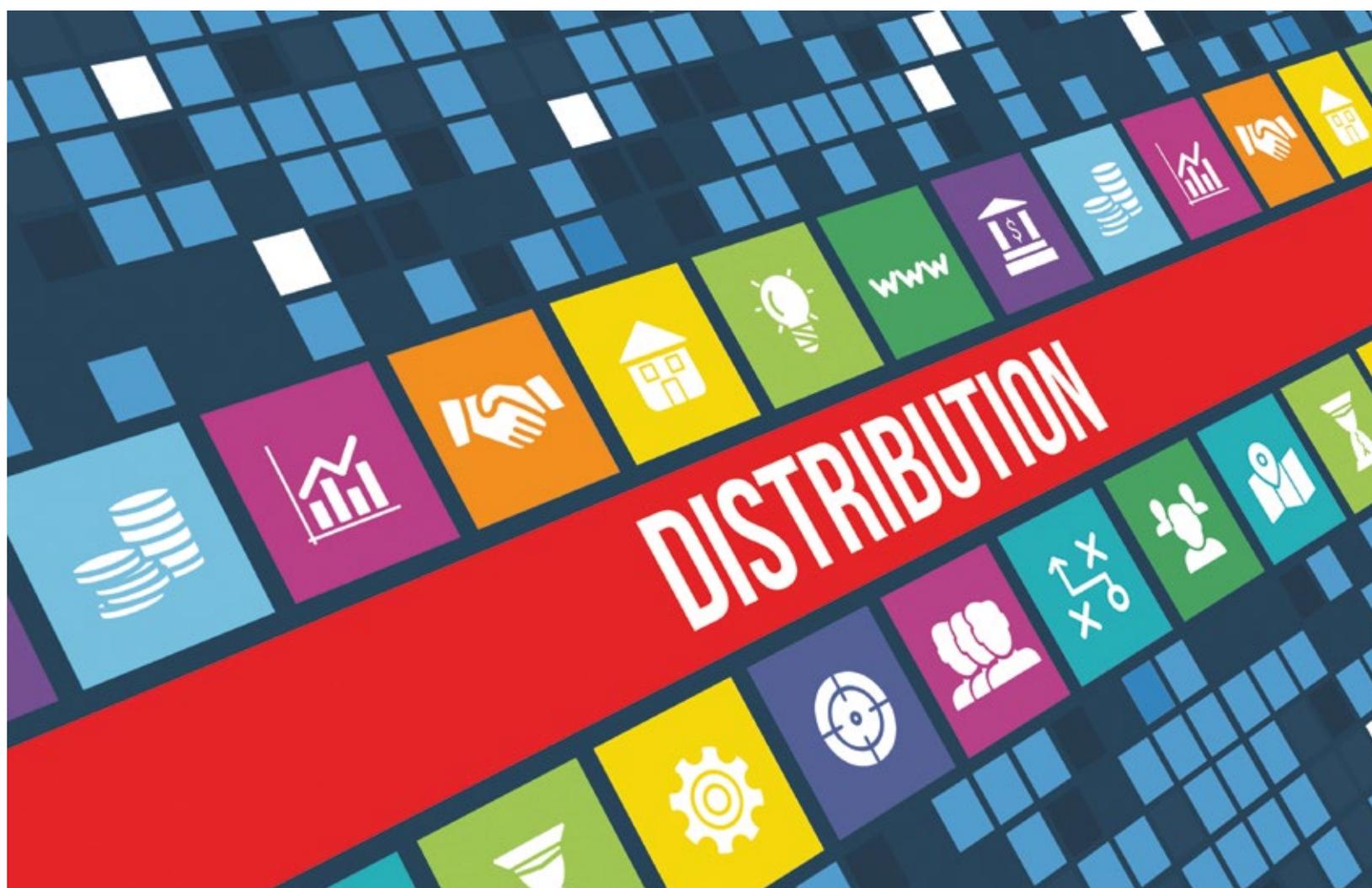


Günther Eberhard, DistriConsult



Jürgen Mohrhauer, DistriConsult

Driven by the large range of products delivered into the marketplace due to the suppliers’ portfolio enlargement and the existing regional and geographic differences, a local supplier was needed. The producer focused on the large strategic accounts for cost-effectiveness, while the marketplace changed form a producer-oriented supply field to a more cus-

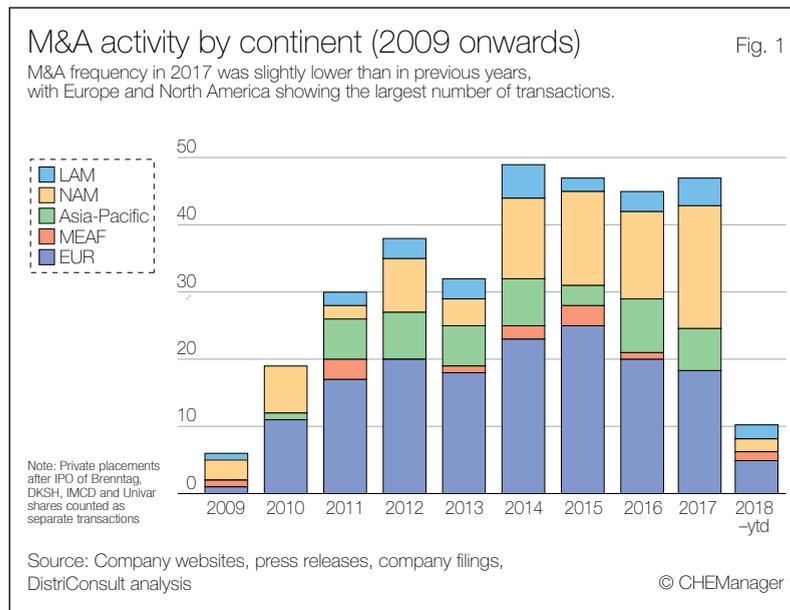


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tomers focused value field: the link to the medium customers is kept by the chemical distributors, when it comes to specialties and formulations.

The “New Normal” ahead of Us

The break-up of the traditional large chemical sites into “industry parks” through specialization trends within the industry and significant M&A activities have changed the landscape of the chemical industry again in recent times. New sourcing areas have developed in Asia (especially in China, but also in India), and the traditional raw-material regions, like the Middle-East, are emerging into down-stream producers, paving the way for more competition, and forcing the distributors to re-position the offering while being “stuck in the middle”, needing to gain size and coverage (geographically and with respect to industries served). And not enough, alongside



to these movements and re-configurations, IT-related developments such as “Artificial Intelligence” (AI for short) and “Big Data” have reached the chemical industry. The envisioned

shift is potentially so big that everybody is talking about nothing else but Chemical Industry 4.0. What could this potentially mean for the chemical distributors?

The chemical industry has been a quick adaptor of “Information Technologies”, but traditionally in the engineering and production area. Now it is being challenged with combining data generated internally with external market and customer data in order to create additional value. The so-far “linear structure” of our economy will become much more a sort of complex eco-system, with significant interdependencies, which will not be easy to determine upfront and then “manage” smartly for this relative conservative industry, also also for the distribution sector.

However, this is now the opportunity to utilize digitized records to improve and streamline business processes, create new business models and solutions for competitive advantage and to serve customers even better, by being able to model and predict developments earlier and faster.

Achieving efficiency, taking cost out of the system and supporting decision-making is probably the most

Azelis to Take Morocco’s Distralim

Specialty chemical distributor Azelis has signed an agreement to take full ownership of Distralim, a Moroccan distributor of food ingredients. Financial terms of the deal were not disclosed.

Based in Casablanca, Distralim has 21 employees, who will all be transferring to Azelis. The acquisition is expected to close during the next three months.

Belgium-based Azelis said it will become one of Morocco’s leading food distributors following the takeover of Distralim, which serves the main food markets with ingredients

for confectionery, biscuits and ice cream as well as several non-food segments.

„Morocco, with its population of approximately 35 million inhabitants and strategic location, is an attractive country to grow our business and to further expand into the North and West African regions. The mandates and product offering of Distralim are complementary to ours and enable us to create a solid platform, well equipped for further growth,” said Benoit Fritz, Azelis’s regional managing director for France and Africa. (eb, rk)

2M Holdings Buys Franken-Kosmetik-Chemiehandel

UK-based 2M Holdings, which comprises several companies active in chemical distribution and related services, has acquired German specialty chemicals distributor Franken-Kosmetik-Chemiehandel for an undisclosed sum.

Based in Nuremberg, the family-owned company primarily serves the personal care, home care and food ingredients markets in Germany, Benelux, Croatia, Macedonia and Slovenia.

Mottie Kessler, 2M’s chairman and CEO, said FrankenChemie’s strengths include the ability to support cus-

tomers with an application laboratory and just-in-time deliveries in the right pack size. “2M will now build on these strengths and invest to provide customers and suppliers an even better offering,” he said, adding that the Runcorn-headquartered group was seeking opportunities to expand into mainland Europe.

2M noted that FrankenChemie’s market sector focus and product range was highly aligned with that of Surfachem, one of 2M’s largest companies operating in the UK, Scandinavia, Poland and Brazil. (eb, rk)

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palpable short-term effect from the so-called “digital transformation” for the distribution industry. This does not mean, that all sales will be settled by a “click of a mouse”, but where it makes sense, e.g. in transactional types of purchases, an intelligent platform or e-commerce facility is conceivable, with chemical distributors staying part of the offering on their own, or partnering with their supplier as an external service operator.

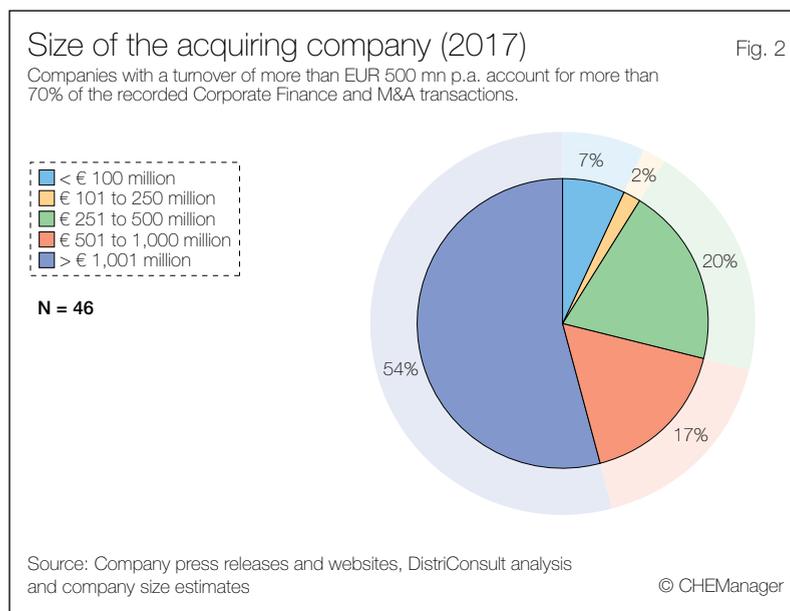
Going for such a concept of “lowest delivered cost” as suggested in the 1990s by Derek Abell, then a Professor of Strategy Marketing at IMD, is in essence commoditization strategy. And that may not be the smartest thing to do as the core value proposition for many distributors is based on differentiation, trying to project the “highest perceived value” to a customer base. Although cost must be kept under control at all times.

For the more “performance critical” products and applications, where product know-how and formulation technology (and all their inherent limits to digitalization) are crucial, it can be envisioned that digitalized communication can be of a benefit, when utilizing blogs, chats, webinars, and bots to clarify standard (and sometimes even specific) application issues, conduct product trainings or discuss commercial terms. Relationship will still matter in many cases, and after all, chemical distribution will stay a mostly local business for a foreseeable time. Thus, these technologies can be important as set up is fast and efficient and benefits in the relationship can be achieved for all stakeholders.

The more complex set-up and use of new business models using data-based technology will have to be determined on an individual basis; there will not be the “one-size fits all” approach, as geography, application market, competitive position and strategic intent are very diverse in this industry. But chemical distributors need to be aware and ready to act when requirements evolve.

What about the Resulting Threats?

A potential threat is facing the distribution industry when upstream producers start to take back former distribution accounts utilizing the possibilities of new technologies that are making it easier and cheaper to handle even smaller accounts. To make up for potential losses of volume, chemical distributors must en-



gage in new areas of business that are currently not the main emphasis.

The evolving and increasing “Circular Economy” will be an area of opportunity to enhance the portfolio of services, which have been offered historically, like bulk-breaking, repack-

„The evolving circular economy will be an area of opportunity to enhance the portfolio of services.“

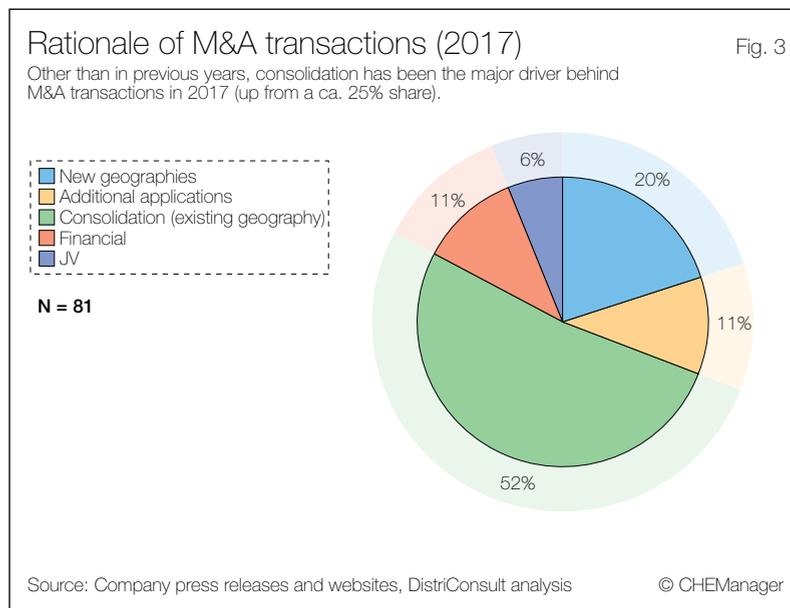
aging, diluting, pre-formulating etc. by building on the existing strengths of being in the distribution sector, close to the formulator using the products.

These services will help customers and suppliers by supporting them beyond storage and delivery, when being challenged with the demand to “use less, use longer, use again” by

end-users of formulations and products, increasing efficiency, life-span and recovery of materials, molecules and energy.

Services could include items such as the re-assignment and offering of out of shelf-life material and off-spec material, the take-back and re-distribution of overstock material, the collection and re-offering of recovered/recycled material for re-use, waste collection and disposal, and offering more materials from renewable sources for “classic” applications, just to name a few. Some of this is not new, but it could evolve into more of a business activity by itself.

This approach would look at the value chain in a more comprehensive way, when in the future value creation is more geared to delivering smart solutions rather than pure supply of chemicals. Utilizing the already existing market links with customers and suppliers by reallocating the product



knowledge to the next level of requirements would need to be supported by enhanced data-driven technology.

Differentiation Will Be Key

Already today, differentiation is an important strategy to evade strong price pressure. In the future it will be more and more a key lever to generate a competitive edge in the marketplace. Even with less drastic changes in the business model, chemical distributors will enhance their visibility and promote their competencies by cooperating with suppliers and customers on technical projects, putting their expertise to work. Here it helps to have invested in a laboratory infrastructure (for selected industries) that can help when dealing with small and medium sized customers in jump-starting their development work.

Distributors are also engaging more and more in conferences and fairs with technical papers. To be better visible in a “crowded space” and to showcase their technical capabilities, they are increasingly applying for (and winning!) awards set up by conference and trade show organizers as an additional offer to presenters and exhibitors.

Absorbing other newly available technology, capturing the value generated through utilization of data enhanced insights and sustaining these gains through an optimized way to operate will help making life easier, for customers, suppliers and the distributors themselves, not much different from what has been the driver in the past.

Yes, there is a lot in for me as a chemical distributor, taking on the challenges of today and staying on top of the developments by selectively engaging in digitalization programs. It is not about a complete re-design and rebuilding of an end-to-end virtual distributor in the digital space, but more about applying just those selected technologies and business practices, required to stay ahead in business, while keeping a close eye on meeting the needs of customers and suppliers. This has always been a driver for the commercial success and the sustainability of the chemical distribution industry.

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Digitization in the Petrochemical Supply Chain

Can the Petchem Industry Become an Early Adopter of Digitization or even an Innovator?

Back in 2006, Clive Humby at Tesco said the almost prophetic words “data is the new oil.” Time proved him right. Now, 12 years later, the top 5 companies in the world in terms of market capitalization are data-intensive enterprises. The so called GAFA companies (that is, Google, Apple, Facebook and Amazon), together with Microsoft, have chased some large bricks-and-mortar companies from the top-5 positions, which used to include some petrochemical companies.

We experience every day how data and digital applications change the way we communicate, the way we live, and the way we do business. It has changed entire sectors, such as telecommunications, retail, and media and entertainment. And it gradually finds its way into other sectors, including the petrochemical industry.

Digitization: Threat or Opportunity?

Digital technologies have a huge impact on the structure of supply chains. Factories are becoming smart by introducing new process technologies, often referred to as Industry 4.0 or Internet of Things (IoT). E-com-

merce is changing distribution channels. Automation and augmented reality are changing the processes in warehouses and transportation. Logistics service providers are investing in end-to-end visibility across the chain. Start-up companies are disrupting traditional logistics flows. The examples of digitization in the supply chain are numerous. They may be considered as a threat for some, yet as an opportunity for other companies.

These developments provided the entry point and backdrop for a supply chain & logistics research study, commissioned by the European Petrochemical Association (EPCA) and conducted over the course of 2017 by a team at Vlerick Business School. Nearly 240 managers and experts in



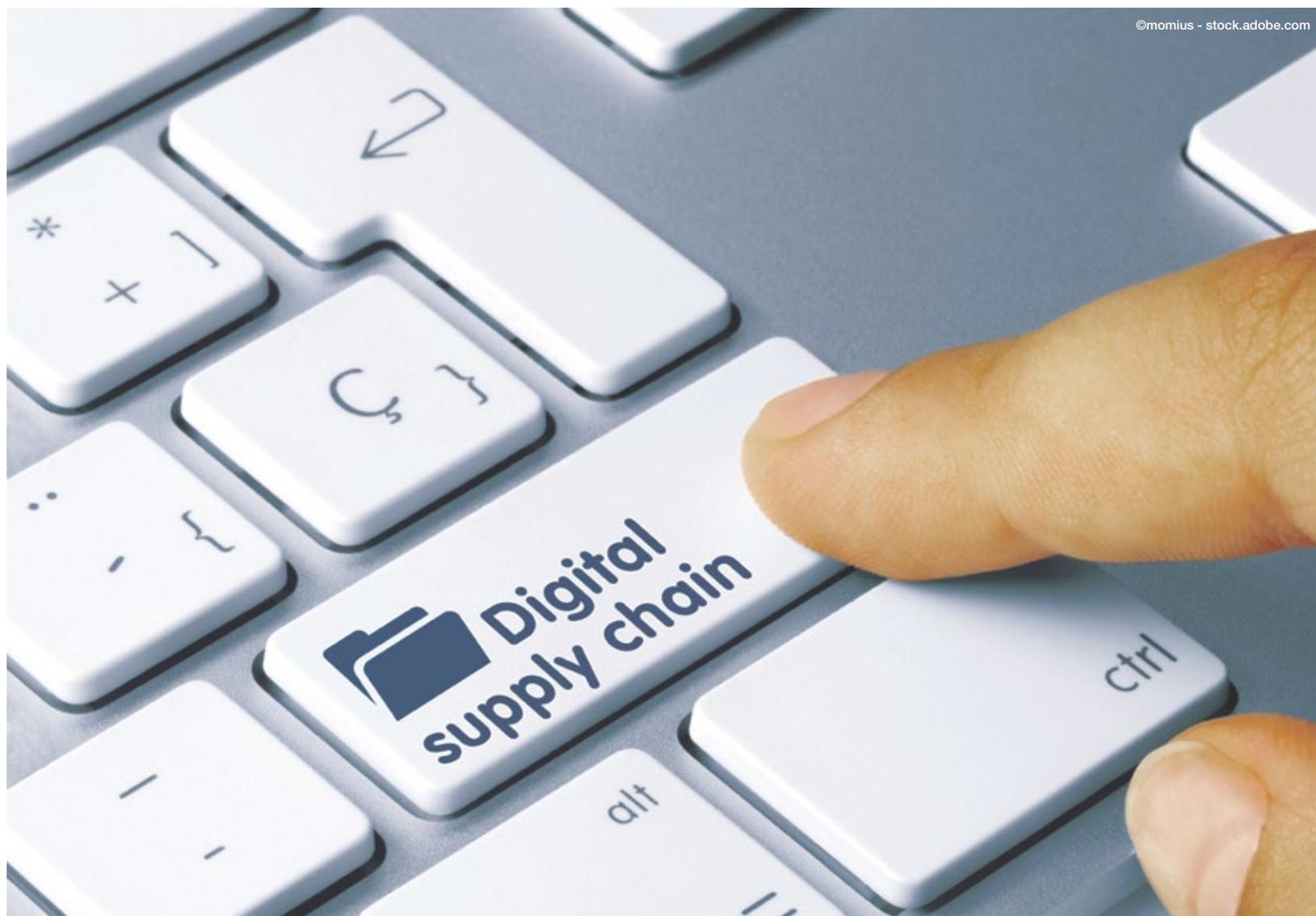
Ann Vereecke,
Vlerick Business
School



Caroline Ciuciu,
EPCA

the petrochemical supply chain participated. The results of the research study are discussed in the recently published report “Digitisation in the Petrochemical Supply Chain”.

A special focus was put on the following questions: How digital is the petrochemical supply chain? What



The Impact of Digitization

Fig. 1

Digitization will change...

1 = not at all 2 3 = somewhat 4 5 = to a large extent



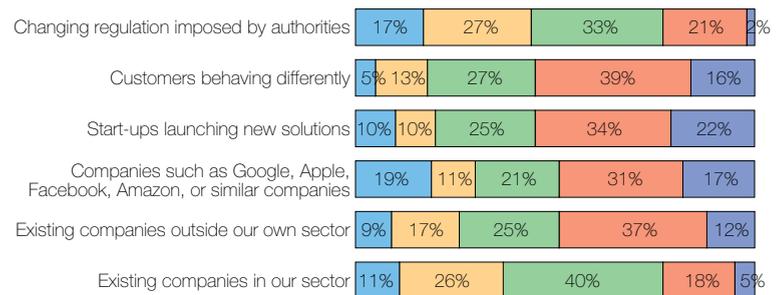
Source: EPCA report "Digitisation in the Petrochemical Supply Chain" © CHEManager

The Pressure to Digitize

Fig. 2

Digitization is coming from...

1 = not at all 2 3 = somewhat 4 5 = to a large extent



Source: EPCA report "Digitisation in the Petrochemical Supply Chain" © CHEManager

does digitization mean for the petrochemical supply chain? And how can digitization create value in the supply chain of the petrochemical sector, from the upstream refineries, to the downstream traders, distributors and customers of the chemical companies?

ply chain are well aware of the impact of digitization. They almost unanimously report that digitization will have a significant impact on their internal processes and their supply chain. In particular, they expect that it will have an important impact on the information flow (ordering, plan-

Half of the participants in the research report that it will even change the way they do business. New business models will arise, in manufacturing as well as logistics. Not only is there awareness of the importance and impact of digitization, there is also a sense of urgency. Three out of

petite to transform is high within the EPCA membership even though overall, the petrochemical industry is perceived as lagging behind other sectors.

The Impact of Digitization

As in many other sectors, digitization is taking place at a fast pace in the petrochemical sector. Proven and new technologies are introduced on the shop floor, in the warehouse, in transportation and in many other logistic activities. They change the way companies run their factories and their supply chain.

The research study shows that managers in the petrochemical sup-

ply chain are well aware of the impact of digitization. They almost unanimously report that digitization will have a significant impact on their internal processes and their supply chain. In particular, they expect that it will have an important impact on the information flow (ordering, planning and control) and the financial flow (accounting, invoicing, payment), less so on the physical flow of products (cf. figure 1).

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"Digital technology awareness [...] is high even though overall the petrochemical industry is perceived as lagging behind other sectors."

Caroline Ciuciu, EPCA

Customers Drive Digitization

Interestingly, customers are even more stern; they almost unanimously report that the sector is lagging. The customers are actually an important driver of digitization (cf. figure 2). They are asking for transparency in the supply chain, for new solutions and for even better service; digital technologies and applications can bring the innovation the market expects.

The pressure to digitize is mainly coming from the market and from outside the petrochemical industry.

SAVE THE DATE

LOGISTICS AND SUPPLY CHAIN WORKSHOP: DIGITISATION IN THE PETROCHEMICAL SUPPLY CHAIN

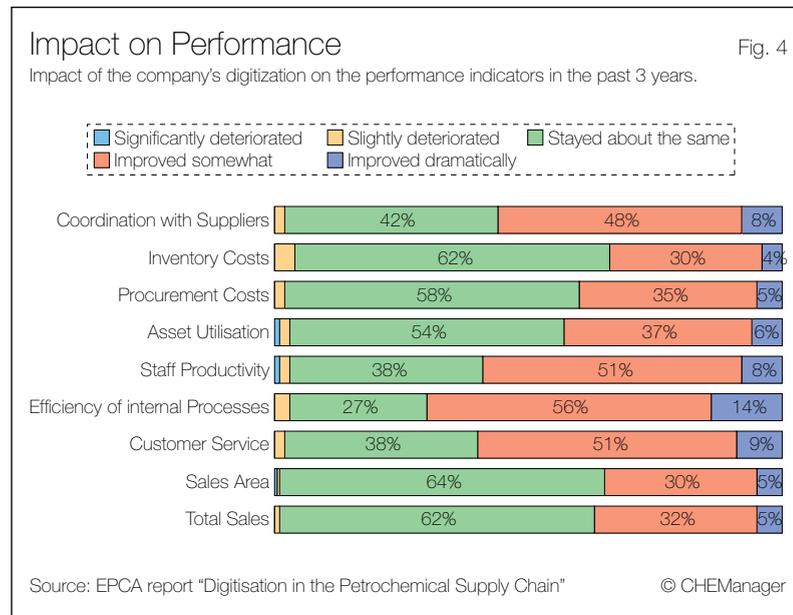
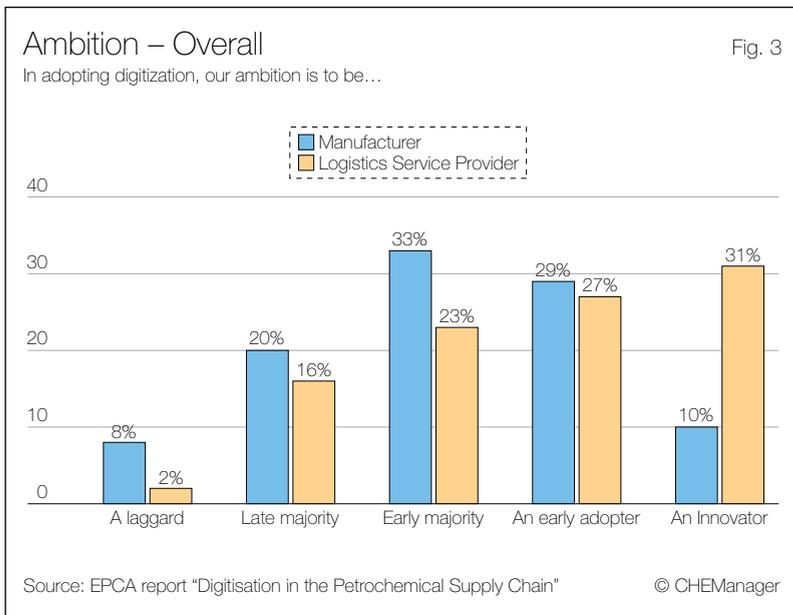
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And, the closer to the customer, the higher is the ambition for and the achievement of digitization. The customers seem to “push” digitization into the supply chain, all the way from the consumer to the refinery.

Pressure is also coming from newcomers in the sector: start-up companies launching new solutions, the so-called “GAFA” companies, or existing companies from other sectors entering the petrochemical sector.

The sector may be lagging... yet, there is a lot of ambition. About half of the participants aim to be an early adopter of digitization or even an innovator (cf. figure 3). However, there is still a long way to go.

A Set of Capabilities Required

About half of the participants admit being still in the starting mode. So, the overall picture the study draws is one of a sector that is well aware of the importance and potential impact of digitization that got off the starting blocks and is running.

The EPCA report provides some illustrations of innovative digital projects in the petrochemical supply chain through eleven cases from manufacturers and logistics service providers. They show the implementation of a wide range of technologies and systems, offering more transparency, creating platforms for intensive collaboration, and improving supply chain performance.

Running the race requires a set of capabilities. There is a need for investment in developing these capabilities. The “number one priority” should go to attracting and developing digital talent, although it is fair

to say that effort is also needed on all other aspects – digital strategy, governance, processes, culture and technology — of capabilities for digital transformation.

Investments in Proven Technologies

Investments are planned mainly in proven technologies. Big data and advanced analytics, cloud computing, digital identifiers and low-cost sensor technologies will find their

likely be in niche applications in the supply chain.

Digitization Does Pay Off

Investments in technologies bring along some challenges that need to be managed. Firstly, the risk of “dehumanizing” the supply chain needs attention. Secondly, the more we use information and communication technologies in the supply chain, the more we rely on these systems for our day-to-day operations, and

levels and improved asset utilization for many of the participating companies (cf. figure 4). Could it be a matter of time before these longer-term benefits materialize?

The study clearly shows a higher level of maturity among the logistics service providers than among the petrochemical manufacturers. Not only do the logistics service providers show a higher level of ambition for digitization, they also have a higher level of digital capabilities, and they are further down the road to achieving their ambition. Since many of these logistics service providers are active in different sectors, they gain experience with more advanced practices that they can transfer to the petrochemical supply chain. As such, they act as the catalyst of digital innovations in the petrochemical supply chain.

“The pressure to digitize is mainly coming from the market and from outside the petrochemical industry.”

Ann Vereecke, Vlerick Business School

way into the petrochemical supply chain soon, if not now already. There is a bit more hesitation in the petrochemical industry on the technologies with medium to longer-term impact: “Maybe” is the typical answer participants gave when asked about plans for investment in the next 3 years on IoT, control tower solutions, robotics and automation, social media and self-learning systems. There is little enthusiasm for investments in augmented reality, blockchain and self-driving vehicles, which is in line with the low impact that is expected from these technologies. Finally, the overall interest in 3D-printing, unmanned aerial vehicles and bionic enhancement is low in the petrochemical supply chain. If and when investments in these technologies will be seen, it will most

the more we must manage the risk of hacking, system failures and temporary black-outs. That said, digitization does pay off. The majority of the participants in the EPCA study report an increase in efficiency and productivity, as well as an improvement of customer service.

Logistics Service Providers Act as Catalysts

Especially for logistics service providers this also results in increased sales. Improved collaboration with suppliers is an often-mentioned benefit. However, the increased visibility of assets and goods throughout the supply chain and the improved coordination and alignment across the chain has not (yet) led to lower inventory

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The Road to Success

Chemical and Pharmaceutical Logistics Providers Define their Role in an Increasingly Complex World

Growing complexity, with a strong focus on digitalization and connectivity as megatrends for the whole industry, dictates the business world. Logistics has become an important factor with special relevance for the chemical as well as for the pharmaceutical industry.

To get a closer look on the opinion of specialists in the logistics sector of the chemical and pharmaceutical industry, CHEManager Distribution & Logistics asked corporate executives and industry experts to share their views and strategies with our readers including principals and customers. Among the questions we put up for discussion were:

- Looking at the coming five years, which are the major trends in your opinion shaping the logistics market in global acting industries like chemistry or Life Sciences?
- Which impact has the digitalization on the pharmaceutical respectively chemical logistics sector?
- Is by example standardization of logistics processes a way to reduce the complexity in the chemical respectively the pharmaceutical industry? What else is needed to be done?

Read here what the opinion leaders have told us and find the complete statements online on www.chemanager.com/en/tags/cdl-opinions.

STATEMENTS

Digitalization Has Many Faces

New technology, particularly prescriptive supply chain and business analytics, will increase end-to-end transparency with solutions that include data engineering, modeling and user interface solutions. At BASF for example, we successfully use predictive analytics in our "supply chain control tower". We consolidate logistics information from carriers and various tracking solutions combine it with external information sources such as weather, news and social media feeds for a pro-active risk mitigation.

Digitalization will also lead to a more horizontal integration, connecting suppliers and customers in real-time to increase planning accuracy, speed and reduce cost. This also enables us to conduct advanced supply chain planning, for example predictive analytics for product demand. Combining "smart" technology with our supply chain expertise enables us to implement new and innovative solutions which also increase our cost-effectiveness. For example, BASF has entered into a strategic partnership with Dutch start-up company Ahrma Holding to jointly approach the growing market for smart logistics solutions. Ahrma offers a "smart pallet" equipped with an active wireless transponder which provides users with complete insights on the position and movement of shipped goods, temperature fluctuations, load state and any possible impact or dropping.

Last but not least, digital technologies will significantly impact physical logistics: New tools for warehousing, transportation management, logistics handling and commissioning will come on the market together with intuitive and mobile-ready user interfaces. This will offer us a wide variety of opportunities for growth and innovation.



Ralf Busche, SVP Global Supply Chain Strategy and Performance, BASF

STATEMENTS

Turning Pure Data into Valuable Information

I believe, that those companies who are able to gain benefits from the new possibilities of the digital transformation will have a competitive advantage. Looking at the challenges in the logistics networks of those industries you can see an ever-growing complexity. Digitalization now opens new ways of turning pure data into valuable information which allows for more reliable planning and thus more efficient and cost-effective processes.

Digitalization helps manage the complexity of supply chains in those industries. With modern IT systems it controls the flow of information that accompanies the flow of physical goods.

In this digital era, cloud technology has a key role to play in streamlining logistical processes. As it allows for managing cross-enterprise logistical processes in a global network of various forwarders and sites and enable all the parties to collaborate smoothly along the transport chain.



Sven Durian, key account manager, Axit

STATEMENTS

Creating Customer Value beyond Chemicals

While the growth story of the chemical industry in the past was mainly built around further diversification and tailoring of chemical products to individual customer needs, today's focus is on efficiency gains and especially creating customer value beyond chemicals.

Chemical leaders drive the transformation of their supply chain into a source of competitive advantage instead of purely considering it a cost position that needs to be handled efficiently.

Accordingly, we observe that our clients strongly invest in four areas:

- end-to-end B2B2C value chain intelligence
- flexible, accelerated, self-learning and dynamic S&OP loops
- transparency and flexibilization of logistics operations
- smart customer interaction in a way we already know from B2C environments



Michael Kirchbichler, partner, Maexpartners

Key requirement for the companies to achieve a competitive advantage in these areas is, to significantly enhance their technological and digital capabilities, too.



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A Powerful Tool to Meet the Digitalization Challenges

How Business Process Management Drives the Digital Transformation of Chemical and Pharmaceutical Companies

Business Process Management (BPM) makes short work of digital transformation, according to a joint study by BearingPoint & BPM&O. The BPM Study 2017 (published in Oct. 2017) presents a cross-industry picture of BPM implementation in German-speaking countries, and it confirms that chemical and pharmaceutical companies see “process digitalization” and “the development of new, disruptive products and services” as the biggest challenges in their digital transformation journeys.



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Process-oriented Management and Digital Transformation Complement Each Other

Most chemical and pharmaceutical companies have long recognized the importance of process-oriented corporate governance. They have established process organizations with global process maps of governance, roles and methods. Digitalization is also high on their agenda, and hardly a month goes by without the launch of a new, large-scale digitalization initiative.

As customers become more demanding and unpredictable, and

competition becomes more intense not only because of new players but also due to the increase in process digitalization, too many companies are optimizing existing processes only through the introduction of new technologies without also considering fundamental structural and process reforms. Corporate culture and the interests of functional organizations often stand in the way. These companies act traditionally, hierarchically and vertically instead of agile, horizontally and process-oriented. Although both BPM and digitalization are widely supported by the majority of participants, there

continues to be a lack of understanding that only if the two are joined can their true power and potential be realized to sustainably contribute to the digital transformation of an enterprise.



Jan Bernstorf, director, BearingPoint, Frankfurt, Germany

Digital Redesign of the Process Landscape

The BPM study shows that pharmaceutical and chemical companies prefer to use BPM for a one-time harmonization of their system landscape,

for addressing legal requirements and to pursue process cost optimization. Almost 70% of those surveyed see the optimization of historically

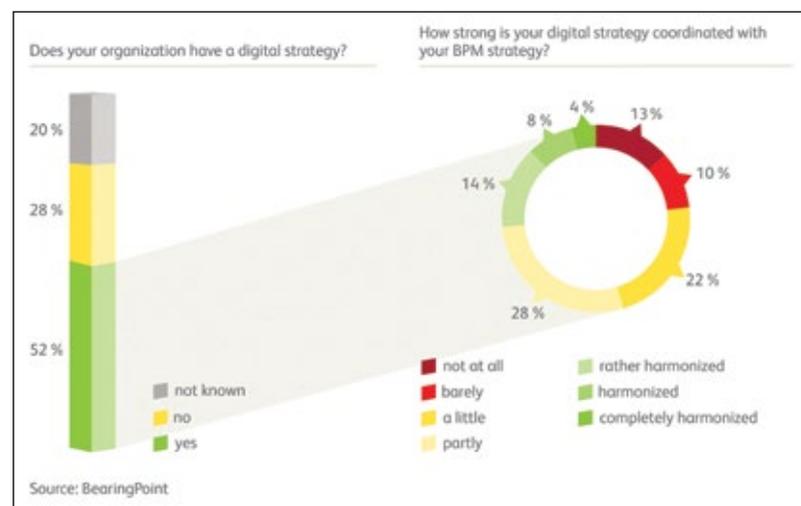


Fig. 1: Reconciliation between digital strategy and BPM strategy

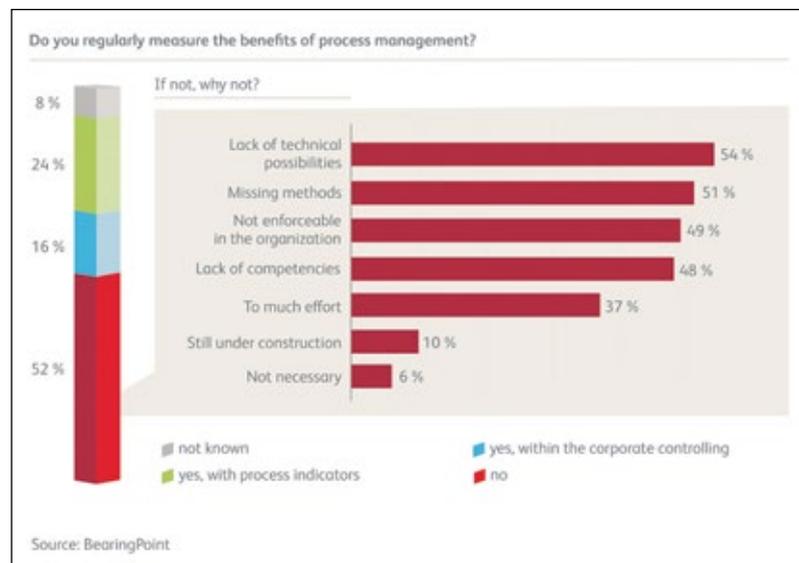


Fig. 2: Process-based implementation of digital strategies

grown processes and system landscapes as a key driver for the successful and sustainable establishment of BPM. The digitalization of processes and the development of digital products and services are regarded as the greatest challenges in the industry. Half of all chemical and pharmaceutical companies surveyed cite master data management and the development of an integrated data model as a significant “enabler” in the digitalization process. The development of new business models and IT security are also considered challenging.

50% of representatives from chemical and pharmaceutical companies are already using BPM to redesign the processes around better customer integration, and 40% are creating new access to services and products via digital channels. One quarter are working on the development of a customer journey map linked with the creation of a corporate process map along the customer touch points. And yet, only a fifth of those surveyed plans to open up their systems for partners and customers to share or create digital solutions.

If evaluated more closely, it turns out that most of the initiatives in terms of process digitalization are located in the areas of order processing, purchasing & production as well as financial & controlling processes. Significant potentials are also seen in the digitalization of research & development as well as risk & quality management processes. By contrast, digitalization in product and portfolio management is astonishingly low, and so too is the use of innovative technologies in marketing and planning processes.

Insufficient Process Performance Measurement

When asked whether and how the benefits of process optimizations and/or digitalization initiatives are measured, the results are ambiguous: overall, only 44% of participants have implemented a KPI-based measurement of BPM benefits.

Asked about the reasons for not carrying out sustainable process performance measurements, participants cited a lack of methods (63%), a lack of technical possibilities (50%) and a lack of competence (38%). While 38% claim to be already involved in setting up a process controlling method, a quarter say it is not enforceable in the organization, and 13% say it requires too much effort

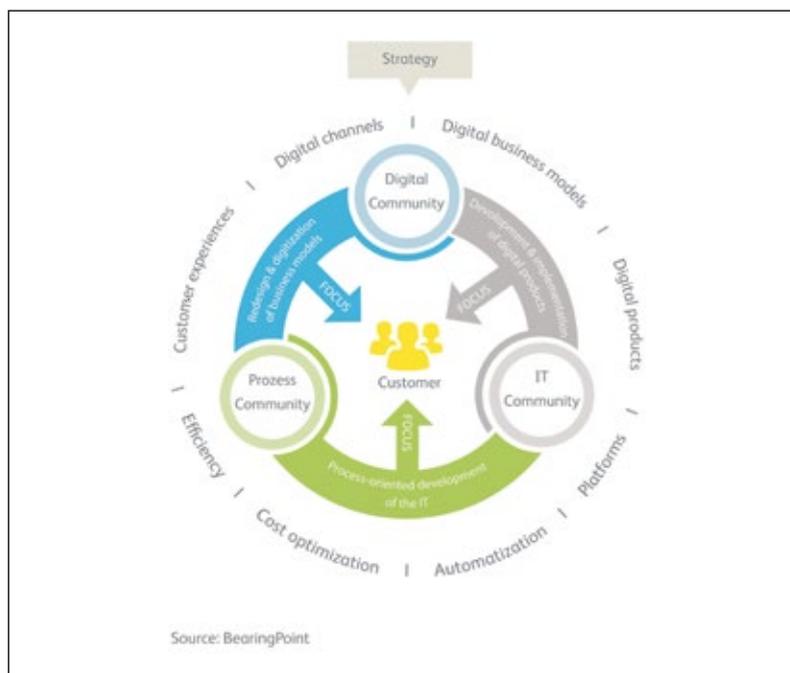


Fig. 3: Reason for lacking measurement of processes

with another 13% saying it is simply not necessary.

An essential tool that not only helps increase the acceptance of BPM but also improves the success of digitalization projects is process mining. Providing the required transparency in process performance measurement, even in real-time if required, process mining has the potential to revolutionize how BPM can be operationalized on a broad front to sustainably strengthen process orientation in companies. By evaluating digital footprints in the supporting IT

system, deviations can be assessed, optimal processes specified, and process changes can be made objectively measurable. Complex processes can be visualized and analyzed by mining, from the actual process data down to the transaction level if required.

Optimization and automation potentials are thus made visible and can be improved by other elements of BPM's digital toolbox, such as robotics process automation (RPA) or cognitive computing. Especially for production and logistics processes, serialization software solutions are

increasingly used for the consistent tracking of products. Key benefits of cloud-based track & trace solutions include the strengthening of product safety and compliance (anti-counterfeit protection), an increased visibility along the logistics chain (from the factory to the interim storage facility to the point of sale), better accessibility and direct communication with the end user. This makes BPM, in combination with digital solutions, a powerful tool to meet the challenges of digitalization.

Implementation of Digital Strategies

Successful BPM always requires close collaboration and the regular coordination of strategy, goals and initiatives between the digital community and the process and IT communities. Building consistent business process management allows for systematic consideration of strategic and operational needs, typically adding digital solutions that strengthen the process community, which in turn accelerates the digital transformation process and the value contributed to the business, a value that can be measured.

Jan Bernstorff, director, BearingPoint, Frankfurt, Germany

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Who is the Future “Chemazon”?

Business Models of Chemical Distributors Are Digitally Challenged

The traditional business model of chemical distributors is currently fundamentally challenged on one side by digitally enabled activities from principals, logistics providers, customers, start-ups, larger chemical distributors or combinations of smaller players, who try their own online channels, and on the other side by general e-retailers like Alibaba or Amazon, who explore to enter also into chemical & material categories. A big driver for those trends and ambitions are unmet customer needs, like the wish to be provided the opportunity to buy chemicals and materials as conveniently as buying books or other goods from Amazon. But who will be the future “Chemazon”? And what will be the impact on chemical distributors?

Principals experiment with new e-channels that could ultimately reduce the share of business with chemical distributors. But at the same time, they are limited by their own product portfolio and do not have the breadth and depth of product applications beyond their offerings. At the same time, they are using Alibaba, AmazonBusiness or other on-

line retailers or one of the many new e-market platforms, to grow their business and to reach more customers. This is especially true in China where those partnerships drive a lot of the overall business growth. It will be seen if principals are able to maintain the customer contact and intimacy over the long run or if the new e-retailers will simply take,

learn and optimize the customer relationship and make the principal more and more exchangeable and dependent, as we have seen in other categories outside chemicals and materials.

In addition, many start-ups are trying to establish online marketplaces. Will they have the same fate as ChemConnect, CheMatch, Fob.com and others 20 years ago? When going beyond searchable catalogues into trading, auctioning, negotiating and thus pricing, the principals woke up and created their own trading formats, like Elemica, Envera and Omnexus, which have been more resilient. What’s different now? Will the higher global interconnectivity and new suppliers allow the current start-ups to become successful and reliable market platforms this time? Are they able to enter into specialized segments, or will those that survive function as limited online agents and traders for standard, bulk chemicals, especially for spot volumes?

And will logistics providers be able to expand their business model be-

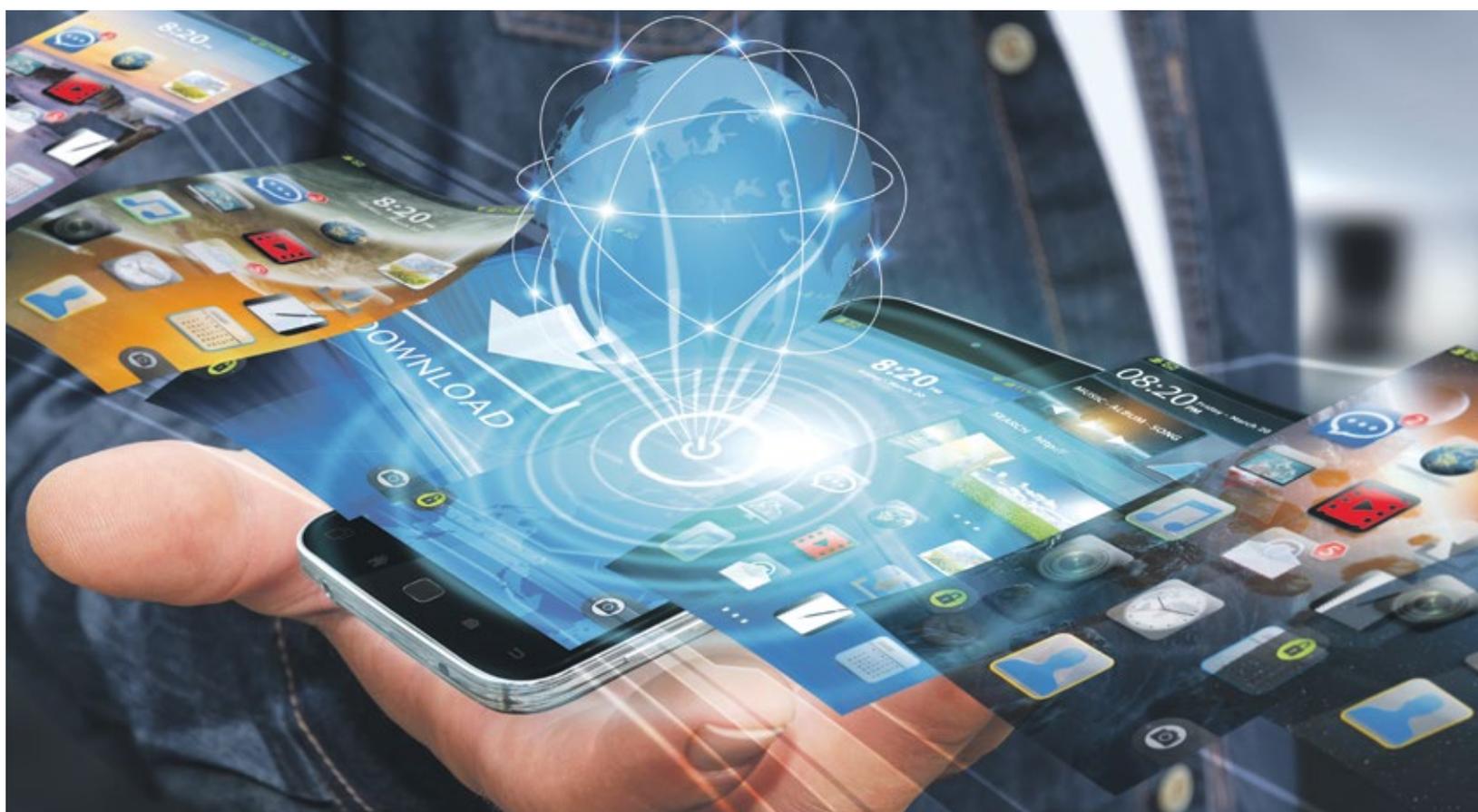


Wolfgang Falter,
Deloitte

yond transport, logistics and storage into distribution? Or will chemical distributors and/or principals continue to use them as physical supply chain partners?

Standard Chemicals & Materials Are at a Higher Substitution Risk

Standard chemicals & materials distribution is more at risk to be substituted by principals, logistics providers, customers, new start-ups and general e-retailers like Alibaba and Amazon. Principals create their own offerings, as the example



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of DowDuPont with standard silicones sold under the Xiameter and specialized silicones under the Dow Corning brand names show. Furthermore, principals team up with Amazon or Alibaba, like BASF and Henkel in China.

Logistics providers fulfill local distribution services for bulk liquids, like acids, lyes and solvents, but also fillers, fertilizers and other solids. New start-ups “uber” themselves as aggregator platforms, between principals and/or distributors and customers. This is not only limited to large-volume bulk chemicals and materials. The term “standard” applies also to millions of low-volume fine chemicals, which are “standard” in terms of chemical structure

„Chemical Distribution 4.0 bundles the specific strengths and skills of principals and chemical distributors.“

(CAS-#), purity (technical, chemical, polymer, FDA/cGMP grade, etc.) and often delivery form and packaging. Providing supplier transparency, providing technical data and recommendations, sampling, ordering and re-ordering can be designed as standard processes and automated. Companies like Molbase in China show a very successful approach to this target segment.

With specialized offerings the substitution risk of chemical distributors is much lower. Specialized does not only mean “physically specialized” products, applications, formulations, blends, delivery forms, sampling, packaging as well as proprietary and exclusive principal relationships. Specialized offerings also means customer specific deliveries, order and inventory management, financing, regulatory, technical, commercial or other relevant services.

However, it would be too easy to believe that specialized chemical distributors can relax and continue their business model “as is”. On the one hand commoditization towards standards is faster and stronger than innovation. Thus, more and more product-market segments are commoditizing, asking for quicker, faster and especially cheaper logistics and sales functions. That’s why we believe that the indirect sales share via chemical distributors will continue to grow over-proportionately, also and

especially in a digital world. On the other hand, customers are increasingly asking for online information, track-and-trace and other online services to provide more transparency, service and convenience.

Working on customer centricity and better fulfillment of customers’ obvious or hidden needs should be a

primary task for all chemical distributors, irrespective of the standard or specialized offerings.

Protecting principal and customer data is another important aspect that should not be overlooked. However, this is necessary, but not sufficient to succeed in a Chemistry 4.0 environment.

Chemical Distribution 4.0 - New Collaborative Partnership Models

Chemical Distribution 4.0 is a new, collaborative partnership model that bundles the specific strengths and skills of principals and chemical distributors. When principals and chem-



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To find out more about the launch of the Azelis CSR programme, please visit azelis.com/en/about-azelis/corporate-social-responsibility

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ical distributors bundle their complementary skills they can match customer expectations better than they could by themselves.

In standard chemicals & materials chemical distributors can of-

fer state-of-the art local transportation, storage, logistics services, often in a more cost efficient and convenient manner than principals, by bundling and using economies of scale and scope.

In specialized chemicals & materials chemical distributors can bundle multiple products from different principals and tailor the range for customer specific applications. They can provide the sample ma-

nagement, application technology, technical and other services often more efficiently than principals, especially those with a limited, narrow product portfolio.

That's not really new, is it? That's the prime reason why chemical distributors are used by principals in general, and more in specialized than in standard chemicals & materials. The new, collaborative partnership is about joint web-shops, online services, collaborative planning and reporting, open book policy and supply chain and/or marketing & sales partnerships, rather than the principals treating chemical distributors as resellers to reach indirect customers and the chemical distributors treating the principals as more or less exclusive suppliers.

In North America chemical distributors have traditionally had a more collaborative role than in Western Europe and the comparison of the two regions shows that the indirect Chemical Distribution market share and profitability are higher in North America than in Western Europe. There might be other factors leading to this more attractive market structure, but we strongly believe that a collaborative approach pays off for principals and chemical distributors.

The purpose to prevent a third party to "uber" into the customer relationship and to improve customer centricity is shared in the partnership. Roles and responsibilities of the partners are well defined. The chemical distributors act as a protective partner, outsourced supply chain and/or marketing & sales function towards their principals in the selected markets. Principals provide attractive and innovative products and selected services. Costs and risks for digital, circular or other offerings and services as well as the benefits and expected additional growth opportunities are shared. Planning, investing, budgeting and reporting — except for product prices — is done in a collaborative way. It's a local-regional win-win partnership model. Isn't it worth to explore, if this traditional partnership model can be transferred into the digital age?

Wolfgang Falter, global chemicals & specialty materials sector leader, Deloitte, Duesseldorf, Germany

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Digitally enabled trends in chemical distribution (schematic)

Chemicals & Materials			
Value Chain	Standard	Specialized	Digitally enabled Trends
Principals	Several large producers, increasingly state owned, own salesforce Agents & distributors only for C-applications/regions and spot volumes on a non-exclusive basis	Large to small producers Distributors with exclusive long term distribution rights to act as external logistics, go-to-market and service partners	Experiment with digital channels to service C-customers, regions and applications directly
Products	Similar, chemically clearly defined products purchased often from multiple sources	Different complex, tailored performance oriented products single sourced from multiple principals	Upgrade physical products with digital services
Logistics	Large volume transportation (pipelines, vessels, barges, trucks) and storage (tank farms, bulk storage) are core and esp. for hazardous chemicals and materials a local differentiator	Small-medium volume transportation (trucks). Storage is non-core and often outsourced to logistics service providers	Logistics providers try to move into digitally enable transportation and storage supply chain services
Marketing & Sales	<10-15% indirect sales via agents, traders and distributors, who function as large indirect customers	>15-20% indirect sales via distributors, which function as go-to-market and fulfillment partner	New online retailers and e-market platforms, Alibaba and Amazon-Business attempt to enter chemicals and material category, Large distributors explore online services and smaller distributors try to set up own platforms/web-shops
Regulatory & Technical Services	Limited demand for regulatory, technical services; sometimes need for recycling, financing, net working capital services	High demand for regulatory, technical, financing services and application technology/ lab services across products and principals	Online commercial (solicit-order-to-cash) and technical (application technology, regulatory, trouble shooting) services
Customers	Few-to-many often big upstream customers e.g. oil & gas, synthetic fibers, commodity plastics, acids, lyes, solvents, fertilizers, fillers, inorganics, industrial gases, etc.	Many-to-very many often small and medium sized downstream customers, e.g. textile, leather, paper, water chemicals, coatings, adhesives, elastomers, engineering and high performance plastics, etc.	Customers ask for online information, track-and-trace and other online services and more convenience

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Recommendations for chemical distributors (schematic)

Chemicals & Materials		
Category	Standard	Specialized
Differentiation, competitive advantage	Focus on local/ regional best in class transportation and storage capabilities	Large to small producers Distributors with exclusive long term distribution rights to act as external logistics, go-to-market and service partners
Success Factors	Availability & price	Different complex, tailored performance oriented products single sourced from multiple principals
Key Functions	Supply Chain, Logistics, Warehousing/ Storage, Bulk Breaking/ labeling	Small-medium volume transportation (trucks). Storage is non-core and often outsourced to logistics service providers
Principal - Distributor Partnership	Distributor acting as non-exclusive local regional indirect customer of Principal, fulfilling "last mile" Supply Chain role towards customers	>15-20% indirect sales via distributors, which function as go-to-market and fulfillment partner
Customer Experience	Customer Expectation - Distributor Performance = Customer Satisfaction "Amazon"-like customer journey from identification of product-service needs, via supplier selection, sampling, ordering to order delivery, regulatory/ technical or other services, dealing with unexpected events to re-ordering	

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Caldic to Acquire Acatris

Dutch-based international distributor and manufacturer of ingredients and products for the food, chemical and technical industries, Caldic, has reached an agreement to acquire Acatris, located in Bunschoten, the Netherlands and Mechelen, Belgium.

The company to be acquired is a supplier of ingredients, services and solutions to the food processing industry.

Caldic said that with this acquisition, it strengthens its range of single ingredients and stabilizer systems. In addition, Acatris' facilities enrich the custom manufacturing and processing services Caldic offers, such as

product development, blending, grinding, repacking and sieving of products.

Olav van Caldenborgh, Caldic's CEO, said: "Recently Caldic Belgium and Caldic Ingredients in the Netherlands joined forces by forming one Benelux team to guarantee an even better service to customers and a stronger route to market for suppliers. The addition of the tailored and innovative Acatris solutions perfectly aligns with this. It strengthens our position in the market and I'm convinced that both our customers and suppliers will benefit from it." (rk)

Jörg Hörig Takes over Enorica

Jörg Hörig, who joined Enorica as managing director in Oct. 2016, is assuming 100% of the company's shares from Georg Nordmann Holding. As of Mar. 14, he and his long-standing team of staff run the company in a fully independent capacity. Hörig intends to expand Enorica's core business from the B2B field to the B2C sector as well.

Georg Nordmann Holding decided to release Enorica to pursue these future activities independently, as the company's plans to include the end-user market does not align with the holding's own strategic focus, which solely targets the B2B sector.

Jörg Hörig is optimistic about the future: "I very much look forward to the challenge of entrepreneurial inde-

pendence and, in particular, to the opportunity to further expand the range of services we offer here at Enorica. We now see prospects that we would like to pursue that will allow us to support end users as well as the small and medium-sized businesses that take an interest in the services we offer. At the same time, we will continue to maintain the close and trusting customer relationships we already have and work to maximize them with additional services. In a personal sense, I view the takeover as a step in the right direction because it will allow me to make even better use of the broad-ranging experience I gained in chemical distribution at Nordmann, Rassmann." (rk)

Univar Agrees North American Distribution Deals

Chemical distributor Univar has announced agreements with DuPont, Chemours and ABITEC Corp.

The first deal extends Univar's relationship with Dow Chemical, now part of recently merged DowDupont, to include exclusive distribution rights for Ucon polyalkylene glycol (PAG) fluids and lubricants in North America. The agreement also includes the oil soluble PAG (OSP) base fluids range.

The distribution group said the arrangement will complement an already long-standing relationship between Dow and ChemPoint, Univar's wholly owned subsidiary that provides an e-distribution service to the fine and specialty chemical markets.

A second agreement is with US chemical company Chemours, under which Univar will distribute hydrochloric acid produced at the Parkersburg, West Virginia plant. Hydrochloric acid, which has a total market of more than 5 million t, according to Univar, is used in a wide variety of applications, including pH control for water treatment processes, steel manufacturing, and oil and gas drilling. Univar said the deal will shorten the supply chain and improve service response times.

Lastly, the Illinois-headquartered group has reached agreement to distribute ABITEC Corp's pharmaceutical and nutraceutical excipients in Canada with effect from Feb. 1. (eb, rk)

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Shaping Successful Partnerships

Relationships between Distributors and their Principals and Customers are Getting Increasingly Sophisticated

In today's competitive global market, chemical distributors face not only growing compliance demands but also strive to increase the added value to their partners in the supply chain. Under the theme "Shaping Successful Partnerships" the FECC Annual Congress 2018, to take place in Nice, France, June 4 – 6, aims to provide inspiration to the delegates considering how to boost their relations with the suppliers and customers in order to successfully face the challenges ahead. Michael Reubold asked Neville Prior, president of the European Association of Chemical Distributors (FECC), about the market trends driving this need for greater collaboration in the chemical supply chain.

CHEManager: *Mr. Prior, for many years, chemical distributors have stressed the need for more collaboration in the chemical supply chain in order to seize mar-*

ket opportunities and new development business models. What, in your opinion, are the current market trends that drive this development?

Neville Prior: The chemical distribution industry has always held the belief that the most successful principal-distributor relationships are those where a true partnership is forged. Manufacturers have many reasons to use distributors, such as gaining market access and insight, reducing complexity, accessing added value operations etc., but all these benefits become far greater when a true partnership exists. Our world is getting ever more complex, and whilst we see globalization continuing, we also see more complexity emerging on a national or regional basis. Good distributors are well placed to deliver services across that broad spectrum to their principals and downstream customers alike. No longer is it sufficient to simply deliver pre-packed goods to a



Neville Prior,
president,
European Association
of Chemical
Distributors (FECC)

customer on time. Today the suppliers and distributors need to provide bespoke packaging and labeling, tailored blending of products, technical support of products through laboratory facilities and dedicated technical staff, have sustainability at the heart of their strategies, embrace the opportunities of the digital age and provide best-in-class customer service.



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How are the expectations of the suppliers and the customers changing, and how will it affect the role that chemical distributors play in the future?

N. Prior: Expectation only ever goes one way: up! The sorts of things that not so many years ago were differentiators, ISO9000, on-time delivery, and even a website, are a given. Today, customers and suppliers are ever more sophisticated, their requirements are increasingly comprehensive, and there are ever more stakeholders in the supply chain to satisfy.

Suppliers want to reduce their complexity and concentrate on those things that they are best at. Customers want support across the technical and regulatory playing field, require reliable delivery and quality, provision of timely information and bespoke services: customers want help to grow their own businesses! All of this means that distributors need to continue to evolve their relatively simple business models into being ever more sophisticated.

How does the chemical distribution industry prepare for the role they have to play in the future?

N. Prior: I think that this necessitates leaders of businesses to step up and review the vision for their businesses in the future. With technology ever evolving at a faster pace and the demands of manufacturers and consumers changing, now is a pivotal time. Leaders must be clear about the future and communicate what that future looks like to their staff and stakeholders, the rest is strategy and tactics! What is certain is that the industry will continue to develop and I believe grow: but only the very best organizations will benefit. The industry will need to embrace change, invest in people, technology and assets: if it does so then there is a great future.

'Chemical Distribution 4.0' has become a buzz word to characterize the evolution of new business models in the sector. Which trends and developments are driving this change?

N. Prior: At the present time there are many drivers of change in the industry. An ever increasing focus on secu-

rity, is concentrating focus on having robust and safe supply chains in order to combat the terrorist threat. We see ever increasing co-operation between the industry bodies and Governments and NGO's. There is also an increased focus on the environment and communities, and initiatives such

„Today, there are ever more stakeholders in the supply chain to satisfy.“

as the Circular Economy in the EU, the UN Global Compact and industry initiatives such as Together for Sustainability, are encouraging companies to think carefully about their Corporate Social Responsibility strategies. Of course the topic that headlines in the press regularly concerns digitalization. This is a topic that continues to grow, and the rate of growth will undoubtedly increase.

How well prepared is the chemical distribution industry for the challenges of 'Chemical Distribution 4.0' that lie ahead?

N. Prior: The industry probably finds itself in various stages of preparedness. There are those who have embraced the challenge, and who are actively working on e-platforms, stream-lining supply chains and creating a strategic vision for the 4.0 future. There are others who are simply saying that it "won't affect me". The truth of the matter is that this has the potential to create a fracture in how our industry progresses, and it will bring threats and opportunities for all. One of the positive things that FECC can do, is to bring that realization to light, and encourage members to think deeply about 4.0 and their positioning to it.

Digitalization has proven in many industries to be a disruptive force, providing entry points for new market participants. How, if at all, can the chemical distribution industry turn these challenges into opportunities?

N. Prior: The chemical distribution industry is well run and takes on board its strategic position in the supply chain, and all that implies with regard to health, safety and the environ-

ment. The industry is also one populated by a number of entrepreneurs, and in my experience, is an industry that looks to find opportunities where it can. Digitalization may indeed be a disruptive force, but it offers the opportunity, amongst many, to streamline supply chains and drive cost down, to reassess current business models, to allow distributors to reach out to many more potential customers through e-platforms coupled to on-line marketing, and to enhance visibility of the industry. Challenges may be there, but this is a difficult industry to understand, and I would see the opportunities being far greater.

How is the FECC educating and supporting their members in adapting to their new role in a changing market and competition environment?

N. Prior: FECC is and has always been committed to helping our members understand the environment in which

they operate. This may be around regulatory issues and constraints, or it may be around the emergence of new business models and business environments. FECC regularly informs members through its website, regular publications and e-mailed update communications. Working through a focused committee system, FECC is well placed to pick up on changes as they happen, and hence keep members informed at an early stage. FECC of course has its Annual Congress, where some of the big issues are looked at, discussed and analyzed, in a unique atmosphere where opportunities to network are significant. These things combined with seminars at the FECC's offices in Brussels allow our members to keep abreast of trends, and be able to discuss these topics with industry experts.

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Successful Partnerships

Chemical Distributors Provide Insight into their Relationship-building Strategies

The European Association of Chemical Distributors (FECC) picked the tagline “Shaping successful partnerships for the new market demands” as the theme for this year’s annual congress in Nice, France, June 4 – 6, 2018. Delegates will approach and discuss this theme from different angles of view. CHEManager asked corporate executives and industry experts to share their views and strategies with our readers including principals and customers of chemical distribution companies. Among the questions we put up for discussion were:

- What factors define a successful partnership in chemical distribution?
- What do partnerships need to survive changing market demands?
- Which opportunities do you see resulting from changing market demands?

The answers may reflect different opinions and strategies, but one thing holds good for all: in chemical distribution, establishing and fostering reliable and trustful partnerships with principals and customers is key.



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Find out yourself how key players in the chemical distribution business deal with the changing market en-

vironment and how they build successful partnerships. Read here what the opinion leaders have told us and

find the complete statements online on www.chemanager.com/en/tags/cdl-opinions.

STATEMENTS

Mutual Trust, Honesty and Long-term Commitment

“A Partnership is more than a mere business exchange to the economic benefit of both parties. For us, a real partnership is rather characterized by mutual trust, honesty and long-term commitment of both partners. As a family-owned company we aim to provide customer-specific products and high-class service solutions, based on the technical knowledge of our highly experienced employees. Therefore, it is important to discuss new ideas, strategies and market potentials with our partners and to be open for business expansion and innovative solutions.

To mutually benefit from a long-term business partnership, we need to rely on each other and continuously work on boosting our relationship. This includes not only to share benefits in times of success but also to work together on the best solutions under challenging market conditions. Facing a rapidly changing business environment caused by current challenges like market consolidation, chemical regulations or digitalization, we closely work together with our partners. More than ever, it is important to trust all partners in the supply chain — supplier, distributor and customer. We collaborate in close strategic partnerships to successfully meet the external challenges. Thus, we continuously work on our processes, for example, by developing digitalized services to provide enhanced solutions to our customers and to facilitate transparent processes towards our principals. By thinking and adapting quickly in times of changes, I am convinced that we will be able to create sustainable and innovative added value for all parties, always together with our partners.”



Thomas Arnold,
CEO, Biesterfeld

STATEMENTS

Identifying and Managing Opportunities

“Successful partnerships always enjoy growth! Continuous growth requires the ability of distributors to identify and manage opportunities alongside the chemical manufacturing partners. Key is to get access and foothold in new markets arising from megatrends and the ability to follow the globalization of industrial manufacturing structures.

As a specialist distributor we are following consequently the global footprint of the premium automotive OEMs and their tiers. We are supporting this industry with global solutions based on local services and supply to increase market share. The latest foundations to underpin that statement has been in 2017 the establishment of two further local entities in USA and in Mexico.

We complement the globalization strategy by creating access and inroads into new markets and applications, for example, within e-mobility-related application segments. New specific requirements are being served by combining intelligent processing know-how and specialty materials from our chemical manufacturing partners. As a result of our engineering approach we are able to translate manufacturing needs from these future markets reverse to the product creation of our specialty chemicals suppliers. Examples to name are highly efficient e-motors for drive trains, requiring improved dielectric casting resins, or secondly lithium-ion battery modules requiring dielectric thermal management materials, or thirdly crash resistant battery cages, which require bonding and sealing. To accelerate business development we provide unique services towards interested manufacturers.”



Jürgen Rietschle,
managing director,
Bodo Möller Chemie



STATEMENTS

Communication, Coordination and Flexibility

“As in each partnership trust is an integral part — this also applies for chemical distribution. For us it is crucial to listen to the individual needs of customers and suppliers in order to be able to offer them the solution they need. It is all about communication, coordination and flexibility. It is a matter of maintaining continuous and constructive dialogue with our partners and proving that they can rely on us. Thanks to our strong global network we can anticipate global and regional requirements and are able to respond to our partners’ needs with maximum flexibility and speed. This brings us back to the important part of partnerships — trust. Many of our partners have known us for a very long time and know that they can rely on us. Global customers and suppliers want a seamless global interaction and the actual trends are all about digital offerings. It is now the challenge to transfer this trust into the digital era. By developing digital services that will offer our partners even more added value in terms of speed, simplicity, transparency and information, we are well prepared to master this challenge. Our digital services will reduce the complexity of the value chain and workflows for our partners. Faster exchange of market information, more transparency in business development pipelines and better process efficiency will improve business performance and reduce complexity.”



Karsten Beckmann,
member of the
management board,
Brenntag

STATEMENTS

Good Relationships Are Key to Success

„As simple as it may sound, finding the right partners and nurturing a good relationship with them will remain the crucial ingredients for a successful partnership, no matter what the market demands may be. What is changing for chemical distribution is the types of partnerships we are entering into and the services we are acquiring or offering through partnerships. The key to success remain good relationships; and the behavioral traits that nature and foster these, deeply rooted in the belief system of our societies, will not change because of digitization, regulation or any movement in the markets. The developments mentioned, however, are influencing the speed of doing business, how we communicate in our relationships, and whom we form partnerships with. As the middleman, the distributor or trader will always rely on partnerships and the success will be determined by the success of these. Choosing the right partnerships to answer to cost pressures and demands from the market and building a good relationship with these partners will be the decisive factor.”



Christopher Erbslöh,
managing director,
C. H. Erbslöh

STATEMENTS

Our Industry is Going Through Exciting Times

“Chemical Distribution is facing growing markets as well as rising concerns over safety issues. Customers ask for more service and high value addition products. Shortages of certain raw materials as well as shortages in logistic capacities increase the pressure on the market prices. Digitalization accelerates change. This environment may attract new market participants. Thus, it is time to pool resources and concentrate skills in partnerships for the desirable competitive edge. This challenge has sticking points like rising compliance costs that may promote consolidation instead of informal partnerships. Business partners ask for sustainable supply chains to cope with growing responsibilities towards society. More complexity in chemical regulations will raise the bar as well. Process innovation and new business models may be the key to take the opportunities out there. Our industry is going through exciting times.”



Robert Späth,
managing director,
CSC Jäklechemie

STATEMENTS

All from a Single Source, One for All

“Again and again, one has to set clear goals, exploit one self’s opportunities and strengths to the fullest, and create the relevant requirements promptly and flexibly. Restructuring and changed “go-to-market” approaches of our principals demand new ideas. Hence, they demand from their distributors more than just a classic distribution function.

The service idea, customized solutions and clear market strategies are more and more in the focus of the distribution and are demanded by both the principals and the customers. The whole supply chain up to contract production is intended to be depicted by the distributor. All from a single source, one for all. This will massively reduce time and work complexity. By REACh, new biocide guidelines and similar European legal chemical regulations, the market is currently strongly consolidated, almost protected. We notice this development in particular in the specialties area.

Despite capacity upgrades, all of our European suppliers are almost sold out. Allocations and sales control are not unusual catchwords in sales anymore. In particular, digitization will give the local commodity distribution business a new face. Many buyers will increasingly cover commodities via platforms to reduce complexity. The fast pace of the digital world will bring further significant changes to our day-to-day work. Recognizing and being prepared for this development will be key to the future of distribution. Despite everything, it remains primarily the task of the distribution to recognize threats and opportunities, to convince through know-how and to be the link for the manufacturer and the customer in the market.”



Tanja Jenrich,
procurement manager,
GB Chemie

STATEMENTS

Coping with Future Challenges in Chemical Distribution

“We see several kinds of partnerships as crucial to success and to coping with future challenges in chemical distribution: Surely most important are the partnerships with our principals and our network to numerous chemical producers worldwide. Our partnerships with other, independent chemical distributors, in associations like Penta as well as Omni-Chem, go into the same direction. All these partnerships together assure that we are able to supply our customers in different countries with products of best quality, required quantities and competitive prices, even in difficult market situations.

In order to make these partnerships successful, it is crucial to support our principals and suppliers with excellent marketing and sales efforts and with as much relevant market information as possible. The latter is needed to jointly adapt product types, qualities, documentation, certificates, registrations, packaging and other related topics, properties and services to changing and differing needs in each market as best as possible.

Also in the area of digitalization, we see advantages of collaboration and partnerships. Besides our own online shop and e-commerce platform based on SAP, we are therefore currently working on a project to establish a joint marketplace platform for chemicals, together with other chemical distributors of our industry. Jointly with our own e-commerce platform, this will offer additional ways and possibilities of communication, information, of offering and ordering, to our customers, even outside regular office hours. Beside those partnerships, we are regularly and actively involved in M&A projects as well as joint ventures, of which we realized several during the last 10 years, to cope with and actively shape the trend for market consolidation.”



Thorsten Harke,
president, Harke Group

STATEMENTS

Delivering Highly Specialized Solutions

“Strategic partnerships have always been a crucial part of our sustainable business development. As a family-owned business with more than 110 years of experience we constantly strive to expand our long-term relationships in alliance with our customers and suppliers.

To succeed in the environment of an increasingly demanding market, distributors need to strengthen their competitive position by delivering to our customers highly specialized solutions and value-added services instead of exchangeable chemical products. Our customers benefit through our comprehensive services — reaching from storing, filling/bottling up and transporting with our own truck fleet to mixing and recycling chemicals and finally the qualified application consultancy services via our highly skilled technical sales team.

Apart from digitalization and chemicals regulation one of the biggest challenges facing chemical distributors is the ongoing shortage of qualified drivers. One of the largest issues influencing the driver shortage is the demographic of the current workforce, primarily age. At Häffner we are offering a special training/retraining program, including incentives and benefits to attract and retain new drivers. Furthermore, we successfully mitigate the negative effects of the driver shortage issue by actively collaborating with our partner carriers and forwarders.”



Thomas A. Dassler,
managing director,
Häffner Group

STATEMENTS

Turn Challenges into Opportunities

“When we look at all dimensions of challenges ahead for chemical distribution in general and IMCD’s business model in particular our answer is centered around 3 „C’s“ — customers, cooperation, creativity — and 1 „P“ — personalities.

„Customers,“ which in our business as chemical distributors are both customers who buy our products including services, as well as principals for whom we act as channel partners are the major focus of all our activities and the basis for all developments with regard to new systems. It is our clear vision to further crosslink the needs and requirements of all „customers“ in a way that our personal involvement as formulatory experts throughout all market segments remains our key success factor. „Cooperation“ remains a major objective and we are not shy to assess any kind of opportunity to cooperate with valuable partners to strengthen our global market position. Openness and transparency as well as a high degree of loyalty and reliability should form the basis of all our activities and will serve to bind and bond our existing partners and attract new ones.

„Creativity“ is often neglected in our quite scientific working environment chemical industry. We encourage all our staff around the world to sharpen this creativity and to question systems and processes in a constructive manner.

As our business model is very much based on strong personal relationships the right „personalities“ are essential. We often hear and read from our principals and customers and we live it ourselves that business growth is important...we will only achieve this growth when we help our people to grow their „personalities“.

Excelling in above „C’s“ and „P’s“ and superior commitment to global state-of-the-art IT platforms as well as well-defined regulatory and supply chain expertise will turn digitalization, regulation and market consolidation for IMCD from challenges into opportunities.”



Frank Schneider,
managing director,
IMCD Deutschland

STATEMENTS

Still a lot of Hurdles to Overcome

“There are not only advantages when it comes to digitization. A serious danger lies in the lack of personal communication. Especially in the field of distribution, communication is key. We are the eyes and ears for our customers as well as for our producers. Only a constant exchange of information gives us an overview of market movements and thus allows us to offer attractive and competitive prices.

An online platform could be very attractive for the trade with small and micro containers. The degree of name recognition will also increase and thus open new business fields in the future. Looking at growing generations more closely, a certain communication isolation cannot be denied. This will only increase in the course of digitization, cutting off new opportunities left and right.

Despite the fact that a lot of different platforms are already active in the market, the common problem of them all is the lack of traffic. This shows that there are still a lot of hurdles to overcome. Digitalization will come also to chemical distribution, there is no doubt. The crucial question is whether or not the providers are able to meet the customers’ requirements and at the same time fulfill the legal demands.”



Bernd Soyke, managing director,
Penta Chemikalien

STATEMENTS

Creating Value for all Parties Involved

“The essence for successful partnerships is mirrored in our company’s mission statement: creating value for all parties involved. In an increasingly demanding and fast-paced environment partners in distribution are faced with various challenges as well as numerous opportunities: The ongoing consolidation impacts the competitive landscape and will further challenge distributors to reach critical mass. Critical mass usually allows a company to provide better resources, for example, to invest in digitalization projects or meet growing regulation demands — which in return allows a competitive position in offering advanced services to customers and suppliers alike. The point is to find your value position in the market and drive developments as well as benefit from new achievements outside the chemical industry.

A key factor of digitalization is data management which will greatly decide the development of companies and partnerships. Having centralized points of contact and documentation is inevitable in today’s accelerating world. As a result, we are investing in information exchange capabilities to provide all relevant information and to increase the efficiency of processes between us and our partners. Our aim is to create value for suppliers and customers at the click of a button.

The evolution of chemical regulations results in further strengthening our relationships. Regardless of the physical and digital development of the industry — quality, safety and compliance are the backbone of everything we do. If we do not invest here, we would be unable to create value for anyone.”



Christian Westphal,
CEO, Ter Group



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STATEMENTS

A Focus on Delivering Growth

“Successful partnerships are the driving force for distributors. Being a distributor, our place is in the middle of it all — principals, customers, employees, regulators, and many more. These partnerships are based on trust, first and foremost. The partnerships with principals and customers are most vital for us. They require trust and a joint long-term vision, coupled with a focus on delivering growth. For our principals, we are an indispensable extended arm of their own business. Through transparency, they benefit from our market knowledge and can subsequently develop new and better products.

Our customers are still a vital point of focus for us because we know that if we help them once and we prove that they can rely on us for new solutions and improved processes, the relationship will be there to stay. The same applies for service providers. At the end of the day, it’s all about sustainable ways of doing business and being a good corporate citizen.

The challenge is to continue to deliver value to both our customers and principals by addressing all the issues and opportunities. Markets are continually evolving, the innovation and product cycles are becoming shorter, consumers are becoming increasingly demanding, and the social media and 24-hour media cycle push the reputation management to the top of agenda. The environment in which we operate is increasingly complex and we must be responsive to all of that at any given time.

Opportunities and threats are often intertwined; for example, the digital theme can be a negative disruptor if not addressed well. Another development which can have significant impact on distributors is the constant consolidation in the chemical industry, as a result of which the newly merged companies often need to review their distribution landscape. Although this can create opportunities as well as threats, we also see that it can lead to an inward, organizational focus within the chemical companies.”



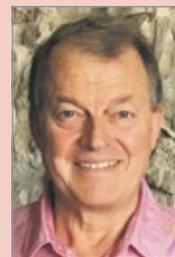
Anna Bertona, CEO & president Europe,
Middle East, Africa (EMEA), Azelis

STATEMENTS

Digitization as an Opportunity

“Over the past decades, good reasons for cooperation in chemical trade have manifested repeatedly. For example, the amount of warehousing costs suggested warehousing collaborations, while the unfavorable purchasing conditions for smaller enterprises suggested purchasing collaborations — whichever example is examined, collaborations have always been motivated by the attempt to make synergy advantages of individual, greater units accessible for a multitude of smaller and medium-sized companies as well. Collaborations of this nature sometimes remained functional even over decades — however, without causing a tangible shift in market conditions. The emergence of digital business models in chemical distribution could open up another exciting chapter regarding cooperation. In this context, I consider the idea of a jointly operated platform for the distribution of chemical products to be game-changing. Currently, chemical distributors of various scales are working on an initiative of this kind under the KEMIX label, which is intended to enable participating enterprises to handle digitized distribution of chemical products under their own control in the long term as well.

A cooperation like this among competitors seems to me to be the appropriate answer to the impending break of externally-operated platforms of the “Amazon model” into our market, which would be associated with a loss of data ownership and payment of transaction fees. A “David against Goliath” principle could prove effective in this matter as well, as long as we remain at the helm of action. The KEMIX project, which we intend to limit to the European market for the time being, is open to all chemical distributors.”



Peter Overlack,
managing director,
Oqema



On the Path Towards Chemical Distribution 4.0

Adapting to a New Role in a Changing Market and Competition Environment

Today, operating as the voice of the chemical distribution industry in Europe, the European Association of Chemical Distributors (FECC) represents 836 chemical distributors with about 30.000 employees and a combined turnover of around €28 billion. CHEManager asked FECC director general, Elisa Setién, to explain how the FECC is educating and supporting their members in adapting to their new role in a changing market and competition environment.

In today's competitive global market, distributors face not only growing compliance demands but also aim to increase the added value to their partners in the supply chain.

FECC, as the voice of chemical distributors in Brussels, is committed to raise awareness among its members on the emerging European regulatory issues, analyzing the impacts they could have to the business environment of the chemical distribution sector and contributing to shape the emerging legislative initiatives.

These days, at FECC security is very much in focus, with the revision of the European explosive precursors regulation on-going, and the continuous efforts of the supply chain

to increase its robustness. Besides representing the interests of the members at European level, FECC also works to achieve workable regulatory frameworks for chemical distributors.

The last REACH deadline for lower tonnages — substances manufactured or imported from outside the EU above one ton but not more than 100 tons per year — copes most of the

„Digitalization of the chemical supply chain remains both a challenge and a possibility.“

conversations these days. However, for chemical distributors the real challenge remains the huge amount of information that has to be exchanged along the supply chain.

Chemical distributors receive diverse information from different suppliers of the same substance, which they have to aggregate to provide their customers with a unique and consistent set of information. In this context, FECC hosted a technical workshop on digitalization of the sup-

ply chain information to ensure that members are well equipped to cope with the challenge.

Besides the on-going work on REACH, making the implementation of the new requirements to notify hazardous mixtures to poison centers under the Classification, Labelling and Packaging (CLP) workable for chemical distributors is also keeping the association.

In this complex regulatory environment new business models are also emerging, and FECC is supporting its members' endeavours in the next phase of the Chemical Distribution 4.0, where digitalization, corporate social responsibility, circular economy and sustainability are key pillars.

Digitalization of the chemical supply chain remains both a challenge and a possibility for the sector. Building on the success of FECC's last year's annual congress, focused on digitalization, the association is becoming a permanent platform to exchange experiences of the Chemical Distribution companies in the digital world and explore its potential.

Europe is transitioning to a more circular economy. For chemical distributors such transition holds a pro-



Elisa Setién,
FECC

mise, and is an opportunity to generate new business models, like the chemical leasing to minimize the use of chemicals and their emissions, contributing to a sustainable, resource efficient and competitive economy.

Through a system of technical committees, specific workshops and regular publications FECC offers a platform for distributors not only to be well informed both on these and other regulatory and business trends, but also to share best practices, and discuss key topics as they emerge.

Elisa Setién, director general, FECC, Brussels, Belgium

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Hand in Hand with Safety

Developments and Current Trends in Pharmaceutical and Chemical Logistics



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In many sectors of industry, logistics has become an economic key factor beyond pure cost. This is particularly true in the chemical and pharmaceutical industries, and it is one of the reasons why the Achema 2018 has chosen logistics for these two branches of industry as one of three focal topics.

The focal points in pharmaceutical logistics and logistics for the chemical industry have diverged in recent years. The distribution chain for chemical products extended, and still extends, from the supply of basic chemicals through various upgrading stages and special chemical production into other sectors of industry, but not normally to end consumers. This is reflected in the logistics operations. Major emphasis is placed on safe storage and transportation of hazardous substances.

Pharmaceuticals are normally distributed through wholesalers to pharmacies where they are available to consumers and patients. On-line pharmacies have created an additional distribution channel. Many pharmaceuticals are now produced biochemically and require careful handling (e.g. unbroken cold chain). Pharmaceutical logistics is heavily focused on the patient and is closely linked to patient safety, creating the need for traceability in the distribution chain.

This alone shows that safety plays a crucial role in logistics in both of these industries, but with a different emphasis.

Chemical Logistics at a Glance

Up until just a few years ago, companies which provided logistics services to chemical companies were primarily in the transportation business and merely acted as „fulfillment agents“. In the meantime, a radical transformation has taken place. Today, the industry is dominated by global supply chains for the delivery of raw materials and intermediates as well as sales and distribution of finished products. Companies specializing in hazardous cargo, transportation service providers

which handle liquid and bulk goods and companies that provide chemical site and storage logistics services meet the specific needs of the chemical industry.

The supply chain is now viewed from the end-to-end perspective. The challenge is to manage the complexity of the global supply chain. Mainly for cost and safety reasons, the multi-modal supply chain rail/sea & inland waterway/road (inter-modality and combined transportation) has special significance for the chemical industry. Particularly for bulk goods, the authorized means of transportation for many chemicals are subject to legal restrictions. Outsourcing of logistics services to professional partners who often operate in global logistics partner networks plays an increasingly important role in the handling of hazardous goods and cargo. In

many sectors of the industry, digitization helps to speed up and streamline many of the complex operations.

Characteristics of Pharmaceutical Logistics

To some extent, pharmaceutical logistics has taken a different direction. Particularly to guarantee the safety of pharmaceutical products in the age of increasing globalization, close attention must be paid to every link in the supply chain. Globalization increases cost pressure, and the pharmaceutical industry is no exception.

Pharmaceutical products are manufactured at the site which has the lowest costs. Because many pharmaceuticals are temperature-sensitive (particularly biotechnology products which are often very expensive), the challenges in pharmaceutical logistics are different from those in the chemical industry.

Medicinal products are more susceptible to temperature variations, and as a result end-to-end temperature control has become increasingly important. Drug safety is another vital consideration. Pharmaceuticals must be protected against theft and counterfeiting. For this reason, traceability in the supply chain, from raw material supply to finished products on route to the patients, has become vitally important.

Strict Rules for Pharmaceutical Logistics

Similar to GMP (Good Manufacturing Practice), GDP (Good Distribution Practice) was introduced five years ago (2013). The revised GDP guidelines stipulate that pharmaceutical manufacturers must ensure end-to-end compliance with government-supervised regulations for their products throughout the entire supply chain.

As a result, manufacturers expect more from their logistics service providers and impose stricter requirements on the transportation of medicinal products. The requirements relating to compliance with temperature range restrictions, hygiene regulations and continuous monitoring have become increasingly stringent in recent years, and to some extent this trend will continue.

The market for temperature-sensitive pharmaceuticals is growing, and that in turn increases demand for temperature control during transportation. In the future, this will include all modes of transportation in the supply chain. In addition to the 2 – 8 °C temperature range, temperature control is becoming an increasing necessity at ambient temperatures (15 – 25 °C) as well. Some transportation service providers have set up special fleets to meet the increase in demand.

Pharmaceutical supply chains have become more international.

Large new markets in India, Southeast Asia and China are developing not only for the production of APIs (Active Pharmaceutical Ingredients) and end products, but also as consumer markets. This is generating increased demand for temperature-controlled pharmaceutical air cargo alongside of sea freight in refrigerated containers. The specified temperatures must be maintained and documented throughout the entire transportation chain, and this also applies to transfer points and ground operations at airports.

Goods are transported in passively or actively refrigerated air freight containers and temperature-controlled transportation vehicles on the aprons.

To help aviation companies, cargo handlers and transportation service providers comply with international regulations and standards, the International Air Transport Association IATA created CEIV Pharma (Center



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of Excellence for Independent Validators in Pharmaceutical Logistics), a standard which covers the entire air freight chain including transshipment points (warehouses, aprons, etc.).

In addition to the stricter temperature control requirements in pharmaceutical transport, shipment monitoring and track & trace are a vital element of the pharmaceutical supply chain to guarantee safety. Commission Delegated Regulation (EU) 2016/161 to prevent entry of falsified prescription medicinal products into the legal supply chain will go into effect at the beginning of February 2019. However for cost reasons, this new regulation is not based on track & trace, but rather on an end-to-end solution which provides an equivalent degree of protection. In the future, a unique identifier must be placed on the pharmaceutical packaging to enable identification and authentication of each pharmaceutical package as well as an anti-tampering device. The clock is running for pharmaceutical companies and all logistics partners who are involved in this complex serialization program to put these requirements into practice.

Pharmaceutical companies now work with a large number of service providers, and that increases the volume of data generated. This includes collection of specific details during handling and distribution of medicinal products, e.g. end-to-end traceability which is also intended to prevent the distribution of counterfeit medicinal products. Processing of large data volumes in real time, in-

creased networking and innovative algorithms are creating the need for new business models and services in logistics. Digitalization is expanding its footprint in pharmaceutical logistics.

Networking between all entities involved in the healthcare system and integration of all available data (big data / advanced data analytics) could provide the basis for enhanced requirements planning and help make pharmaceutical logistics more efficient and cost-effective. One tendency that can be expected is that shipping agents will process more orders using online portals with real time pricing. In the distant future, blockchain technology will provide the basis for secure transactions.

Some manufacturers are already working on medicinal products „on demand“, which will require restructuring of the distribution channels. Direct delivery models and more flexible delivery to the end customer could be the result.

What is the Future Direction of Chemical Logistics?

The global supply chain will also have a major impact on logistics for the chemical industry. As large chemical producers expand their product portfolios, they will have to manage greater complexity to guarantee safety in multiple supply chains.

The global distribution chains are exposed to a number of risks, ranging from general conveyance risks to natural disasters. To counteract these

risks, chemical companies need to identify and assess them. The use of special analysis tools and the installation of telematics systems on all modes of transport which provide round trip monitoring, geofencing, temperature monitoring and other alarm functions is on the rise.

Enhanced end-to-end transparency in the supply chain and information transfer in real time help reduce the level of complexity. In the logistics process, this means that goods can be located at any time and the current status of an order can be ascertained. This makes it possible to reduce order processing and delivery times and to optimize inventory levels. The digitalization processes needed to do this will also help to avoid empty loads in the transportation network and reduce waiting time during loading and unloading. They also support the use of innovative tank container systems, e.g. loading of tank containers from rail vehicles or trucks directly onto a fully automated site transport system.

The differing goals of individual site partners currently impedes simple implementation of digital logistics solutions, e.g. to manage loading and unloading. Other obstacles include the safety mentality in the chemical industry which delays the decision-making process, because agreement from everyone at the site is needed. In addition, standards for digital technologies are lacking.

However, there is no getting around digitalization, and trends like big data and cloud computing are also having an effect on logistics in

the chemical industry. Digital, data-driven technologies for forecasting and process optimization are already making inroads. Neutral platforms, which can be adapted to the specific needs of chemical logistics and help companies efficiently manage complexity when handling dangerous goods, provide the basis for flexible integration of all entities involved in the chemical supply chain. In a collaborative environment, shipping agents can use the common platform, for example, to interact in real time with transportation service providers.

Two factors could cause problems for the chemical industry in the near future, namely the growing shortage of drivers for hazardous goods transportation and the increasing scarcity of sites for storage of hazardous goods and sites with rail access. The industry must quickly find solutions for these problems.

Conclusion

Digitalization will help to address many future challenges in pharmaceutical and chemical logistics. Logistics in both industries must be able to handle greater complexity and more product customization even in the face of increasing cost pressure and personnel shortages. Networking, cooperation and transparency in the value-add chain along with more digitization of the business processes will provide the solutions needed. (sa)

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Tailored Solutions

Chemical and Pharmaceutical Logistics Providers Define their Role in an Increasingly Complex World

Stocking chemicals and pharmaceuticals and moving them from A to B is a complex task. Handling dangerous goods and sensitive active ingredients is highly regulated with regard to storage and transport. How flow of material is controlled within the plant is the responsibility of the company, but inbound and outbound transport is often taken care of by service providers. These are becoming increasingly system partner with higher-level solutions — the digitization of the logistics chain opens new doors in supply chain management and distribution. To get a closer look on the opinion of specialists in the logistics sector of the chemical and pharmaceutical industry, CHEManager Distribution & Logistics asked corporate executives and industry experts to share their views and strategies

with our readers including principals and customers. Among the questions we put up for discussion were:

- Looking at the coming five years, which are the major trends in your opinion shaping the logistics market in global acting industries like chemistry or Life Sciences?
- Which impact has the digitalization on the pharmaceutical respectively chemical logistics sector?
- Is by example standardization of logistics processes a way to reduce the complexity in the chemical respectively the pharmaceutical industry? What else is needed to be done?

Read here what the opinion leaders have told us and find the complete statements online on www.chemanager.com/en/tags/cdl-opinions.

STATEMENTS

A Chance to Ease Processes

Looking at the coming five years there are several major trends that shape the logistics market in global acting industries like chemistry or life sciences.

First of all, new infrastructure and transport concepts will emerge. Vehicles with electromotor and the required battery charging infrastructure are finding their way into logistics. But due to an overload of road and rail infrastructure as well as urbanization also new delivery concepts will come up such as drones or tube logistics that brings logistics into the earth.

Looking at the market environment it can be stated that logistics has to prepare to fluctuating demand and an increasing cost pressure. But also homogeneous safety standards along the whole supply chain are becoming essential.

When regarding the competitive situation we will observe an unbundling of the logistic industry: Companies and their business models will focus on certain and more granular logistic services, which concentrate on separate value creation stages.

Another big trend is the increasing integration among the various parties involved in the supply chain. If all players use the same platform, the flow of goods can be digitally mapped along the whole supply chain. This is a chance to ease processes, save time and increase reliability. The digitalization of data therefore gives lots of new possibilities such as paperless trade, digital document management and big data analytics useful in forecasts or to create new products and services.

To sum up, logistics will undergo many changes in the future, but especially new technologies are offering big chances to stay competitive.



Carsten Suntrop, executive partner, CMC²

STATEMENTS

Highest Level of Transparency

Digitization, sustained pressure on costs, regulatory demands that continue to increase and a shift towards an increasing number of temperature-sensitive pharmaceuticals will be the relevant drivers of change.

The optimization of distribution networks will remain a priority in this regard. The concern here, among others, will be how to define the optimum set-up within the scope of strategic partnerships, the highest possible level of transparency and process-related analyses based on process mining.

By 2020, 27 of the top 50 best-selling global drug products will require 2-8°C. The appropriate packaging and transport systems must be able to prevent interruptions to the cold chain.

The trend towards ever-smaller batches that will end in the individualization of drugs packaging will result in late-stage customization in almost every country across the globe. Products will be manufactured at the latest possible time and protected against forgery with the help of serialization. Many contract manufacturers and logistics service providers who are not now keeping up with the technology will disappear from the market.

The development of individualized drugs and the increasing focus on patients will open up other fields of development.

Digitization will have a strong impact on the restructuring and automation of processes, particularly in sales and order planning but also in tracking and tracing of pharmaceutical products along the whole supply chain. Added value will also be generated for customers by new ways of accessing services and products through digital channels. But it will only be possible to generate this added value if the opportunities that digitization presents are incorporated into a business process management that integrates all the relevant supply chain partners.



Martin Egger, vice president, Pharmaserv Logistics

STATEMENTS

Think Beyond the Obvious Improvement

Standardization only works beyond company borders, close cooperation is necessary. The supply chains of the chemical industry involve a large number of actors like shipper and producer, different logistics, service providers as well as site and hub manager. Permanent coordination efforts, continuous joint improvements and permanently establishing these improvements through standardization at all management levels are as complex as they are essential. For optimization it is necessary to think beyond the (obvious) improvement of operational processes through standardization.

At the tactical level, standardized, coordinated planning and forecasting procedures help to avoid planning errors as well as over- and under-utilization. At a strategic level, these standardization efforts must be prepared and established. Strategic questions are on one hand "for which products and customer groups standardized, lean logistics processes are needed?", on the other "how can agile logistics services make up competitive advantages beyond standard logistics?"

Digitalization is closely linked to standardization — again addressing not only the operational level, enabling standardized and paperless information flows, smooth data interfaces and supply chain transparency. On a tactical management level, joint planning efforts can be supported highly effectively by internal and external 'big data' analysis.

On the strategic level digitalization is not only seen as a means of operational process optimization, tactical improvement of planning and thus in the end as a means of differentiation through cost advantages. It is a means to generate new sources of income by developing new digital business models based on service differentiation. The focus is shifting from merely selling products, to offering tailor-made information based solutions e.g. by selling availability and so generating competitive advantages.



Thomas Krupp, professor, Cologne University of Applied Sciences



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Logistics Hotspot Comes to Stay

Achema 2018: Chemical and Pharma Logistics is Focal Topic at World Forum for Process Industries

Aren't there quite some logistics trade shows already? Yes, there are! But there you have to look very closely to find specialists catering to the chemical and pharmaceutical industries. At Achema 2018 the wallflowers elsewhere are given VIP treatment with a special exhibition zone. At the Logistics Hotspot in Hall 1.1 well-known companies in the logistics trade exhibit and are central contact point for nearly 4,000 exhibitors and 170,000 participants. On top of it, a presentation stage is embedded in the special exhibition zone where the pros share their insider stories all week long.

Conveyor belts, cold storage, labeling — logistics have been present at Achema since forever; now the organizers want to emphasize the topic even more. With the focal topic Chemical and Pharma Logistics, they invite companies along the whole value chain to establish logistics as a permanent topic at this exhibition.

“We are serving up roughly 4,000 exhibitors from chemistry and pharma to the logistics industry on a plate”, says Thomas Scheuring, CEO of Dechema, “for logisticians reaching out into these industries Achema 2018 is a must.”

Big Names Offer Big Services

Eminent names have responded to the call and are pioneering the logistics topic at Achema 2018: Kühne + Nagel demonstrate that former service providers are becoming increasingly integrated in the supply chain and are rising to system partners. Pharma giant GlaxoSmithKline has entrusted Kühne + Nagel with the core business of transporting products from the raw materials supplier to trade customers. It's a first that a pharmaceutical company has handed over tasks thus far-reaching, but according to Kühne + Nagel the deal has roused interest in the industry.

A topic that caused upheaval in the logistics business is good distribution practice (GDP). The regulation has been effective since 2013, but smaller players in the industry are still struggling with it, especially with the matter of transport temperature. GDP requires drugs to be transported at the same temperature they are stored at. To guarantee trans-

port temperatures between 15 °C and 25 °C, logistics companies had to invest big time in air-conditioned trucks. TNT, Pharmaserv Logistics and Unitax routinely offer ambient

transport in temperature controlled vehicles. As just-in-time delivery of drugs from the manufacturer to the pharmacy is not feasible, these companies also offer pharma storage as part of their portfolio.

The Label Becomes Digitized

Chemical and pharma logistics starts long before goods are loaded into a shipping container. For a digitized production, palettes, drums and cartons need labels that last and are machine-readable. Conventional adhesive labels such as those made by Varilabel or PriorityID can be used and the data encoded as barcodes or QR-codes. However, the label has

become digital, too, and comes along as RFID-Tag (radio frequency identification), presented by PriorityID and Rako Security Label. The big advantage: information can be read-out through the closed carton as the scanner does not need visual contact. Near field communication chips (NFC), familiar from contactless payment, are also making their way into logistics.

Travel Safely!

When goods are finally loaded into a shipping container a new logistics chapter opens up: safety and security. If you think “loading” means stacking drums into a shipping container you have never seen what rough sea can do to a cargo ship — it is tossed around like a paper boat. Elaborate lashing strap systems made by Rainer Ladungssicherungstechnik totally make sense not only for transport by ship. They keep drums and other containers in place on trucks and airplanes, too. Even if you have to transport just “regular” chemicals and pharmaceuticals, the transport risk needs to be considered. If you need to move dangerous goods DGM Deutschland is the company to turn to. They know the drill of international hazardous materials transportation and offer their customers help, advice and software.

The Logistics Hotspot Comes to Stay

Established logistics trade shows cover a broad range of the topic, Achema goes deep into the aspects prevailing in the chemicals and pharma industries. “Achema is the trade show where you can find everything to equip and run a chemical or pharma production plant. If freight forwarders and logistics consultants become part of the industry, of course they will find a home here. This year it takes some pioneering spirit to exhibit at the Logistics Hotspot, but in the long run the topic will integrate seamlessly into the trade show”, Thomas Scheuring says. (sa)



Companies along the whole value chain are invited to establish logistics as a permanent topic at Achema.

© Dechema

www.achema.de

Source for Tailored Logistics Solutions

For the first time Achema 2018 invites to a special exhibition zone in Hall 1.1 presenting a Logistics Hotspot for the chemical and pharmaceutical industry. Sonja Andres of CHEManager asked Thomas Scheuring, CEO of Dechema, about the reasons for this step and his expectations.

CHEManager: Mr. Scheuring, how do you rate the significance of logistics for the chemical and pharmaceutical industry?

Thomas Scheuring: Logistics is becoming very significant especially in the pharmaceutical industry. Take good distribution practice as an example: the freight forwarder has to take care that the drugs are shipped at the same temperature they are stored at. Sounds easy, but actually it is a huge responsibility. And GDP is only one of many regulations that need to be considered when drugs are transported from A to B. Small wonder that pharma companies want to concentrate on their core business — developing drugs — and leave the logistics topics to the pros in this field. The cooperation between Glaxo-SmithKline and Kühne + Nagel is a sure sign of a trend towards integrating logisticians as system partners.

What was the main reason for Dechema to enlarge the logistics section at Achema and to take a closer look on its possibilities?

T. Scheuring: The exhibition group “pharma, packaging and storage techniques” already has some aspects of logistics in its name. Then we saw the logistics topics becoming more important for the chemical and

pharmaceutical industries. The logical step was to integrate logistics into the existing exhibition group. It’s a win-win situation: exhibitors who want to gain access to these markets have at least 3,800 fellow exhibitors as potential customers.

Visitors who are looking for logistics solutions tailored to the chemical and pharma industry find them all in one space, the Logistics Hotspot. At a generalized logistics trade show, they would have to comb through hundreds of exhibitors to find what they need. At Achema, they just have to follow the forklift icon to satisfy their needs. The win for us organizers is that we expect to attract a completely new target group that didn’t have Achema on its radar up to now.

In your opinion, what are the most innovative and pioneering developments right now for the chemical and pharmaceutical logistics?

T. Scheuring: Labelling and block-chain. Labelling seems like a very



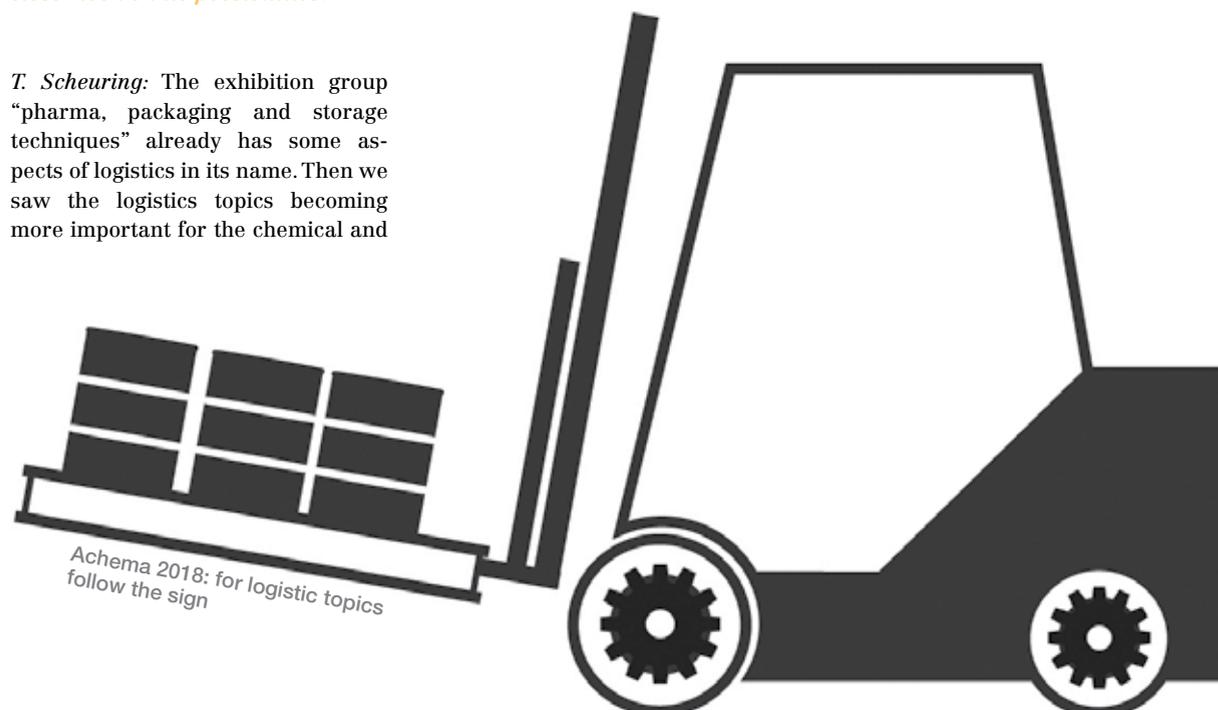
Thomas Scheuring, CEO, Dechema

low-tech topic — printing stickers, what’s the big deal? Upon closer inspection, labelling is the prerequisite for automation. If you want to assemble, say, a pump the assembly instructions on how to mount the different parts need to be stored somewhere.

With the trend towards individualized products, the instructions are individual too, so it’s best if they travel through assembly together with the workpiece. That’s where the label comes into play. It contains all the data that are necessary to control the production process. Today’s “sticker” comes usually as an RFID or NFC tag. These tags still work if they are painted over, as they don’t require visual contact to be read.

Blockchain technology for logistics is so innovative that we don’t even have an exhibitor for it at Achema 2018. Blockchain will have a huge impact on many industries reaching far beyond cryptocurrencies. The sea freight industry for example accounts for 90 percent of goods in global trade. It creates a massive paper trail most of which is never digitized and susceptible to fraud. With blockchain, all parties involved can access a public record of the shipment at any time. The record is immutable and transparent and opportunities for fraud decrease a lot. It’s definitely a topic to look out for, even if only at Achema 2021.

www.achema.de



Positive Impact on Logistics and Production

Port of Antwerp: Smart Hub and Production Site for the Chemical and Petrochemical Industry

The port of Antwerp is not only an important international hub for the chemical and petrochemical industry, especially for these industries it is a significant production site too. Sonja Andres of CHEManager asked Jaques Vandermeiren, CEO of the Antwerp Port Authority, about his efforts in the past year to develop the site for the chemical and petrochemical industry even further and about investments of the ports administration in digitization and other new technologies.

CHEManager: *Mr. Vandermeiren, you have been CEO of the Antwerp Port Authority for a year now. What is your personal summary of the past year?*

Jaques Vandermeiren: Business continued to develop excellently in 2017. For the fifth year in a row, the Port of Antwerp was able to record strong growth with a total freight volume of 223.6 million tons. This clearly shows

that the investments made in for example new terminals and handling facilities in previous years are now paying off and will promote further positive developments in the coming years.

For me, last year was particularly marked by a learning process. I am new in the port business — but with my background in the energy sector, I understand many challenges that the maritime and industrial sectors are facing.

We have been working on a new vision and mission with a stronger focus on our clients' needs. We want to be their home port, their partner for future challenges. That is why we have included topics such as innovation, sustainability and digitization upfront in our new mission. New teams have been formed on these topics: We now have a Digitization & Innovation team and a Sustainable Transition team that is part of the Corporate Affairs team.

What were the most important developments in 2017 — especially with regard to the chemical and petrochemical industry?

J. Vandermeiren: In 2017, too, the port of Antwerp has proven to be an important hub for the chemical and petrochemical industry — and an important production site as well. Re-



Jaques Vandermeiren, CEO, Antwerp Port Authority

© Antwerp Port Authority / Photo: Filip Claessens

nowned companies in the industry have announced comprehensive investments in their Antwerp-based facilities. The chemical giant Evonik plans to invest many millions in increasing its production capacities for specialty silicates. Also the specialty chemicals group Lanxess is planning extensive production expansions: for example, they intend to increase the efficiency of their caprolactam plant for 25 million EUR and the production capacities for rubber chemicals for 5 million EUR. Ineos Oxide will signi-



ificantly expand its ethylene oxide storage capacity in Antwerp through a 100 million EUR investment program — and Borealis announced the start of the “FEED phase” for a new world-scale propane dehydrogenation (PDH) plant at its existing production site in Kallo. Moreover, the petroleum refinery Total together with its logistics partner SEA-invest is investing 100 million EUR in a major capacity expansion in the Port of Antwerp including eight new tanks of 20,000 m³ each, three additional loading and unloading stations and a direct pipeline between the terminal and Total’s refinery.

We consider these investments as an important confirmation that the conditions at the port are in line with the interests and needs of companies in the chemical and petrochemical industry.

What are these conditions, what makes Antwerp so attractive for the chemical and petrochemical industry?

J. Vandermeiren: The conditions meet the industry’s needs in all aspects. Antwerp is a multifunctional port in a strategically central location. Good nautical accessibility and connections all over the world, a dense trimodal network of hinterland connections throughout Europe, the appropriate infrastructure, extensive storage capacities, first-class logistics services, and comprehensive value-added services — all this makes Antwerp an important link in the supply chain. More than 900 maritime, industrial and logistics players are based here. The integrated petrochemical cluster in particular, with over 30 production sites and 16 tank storage terminals, benefits from the synergy effects at the site. Especially for chemical companies, the presence of this integrated cluster also guarantees access to feedstocks that they can use in their production process.

Moreover, the Port of Antwerp offers an attractive investment climate in an innovative environment and, in particular, available expansion space for different purposes and demands.

The Antwerp Port Authority is also investing extensively at the moment, for example by taking over the pipeline company NMP. What were the reasons for this — and what does this mean for the local chemical and petrochemical companies?



J. Vandermeiren: I am convinced that we as a port authority are more than just the landlord of the sites. As defined in our new vision and mission: We are an active part of the port community and commit ourselves to the local companies with the prerequisites they need to operate profitably on the site.

The transport by pipeline-network is an important part of cost-efficient logistics chains of numerous chemical

“The presence of the integrated petrochemical cluster guarantees chemical companies access to feedstocks.”

and petrochemical companies. But high initial investments often represent an obstacle for them to actually shift to pipeline transport. By giving companies access to a pipeline network which is open to all users, we are not only strengthening the local industry. We also promote the modal shift to more sustainable modes of transport, which is a very important concern to us. Pipelines are not only efficient but also the most environmentally friendly means of transport. Moreover, we are reviewing the possibility of integrating these pipelines into a “heat network” or for transporting CO₂.

The Port of Antwerp is one of the few port locations that still has available space. The Antwerp Port Authority is currently seeking investors for an 88-hectare area, the Churchill Industrial Zone. Would this also be a good location for companies in the petrochemical and chemical process industry?

J. Vandermeiren: The Churchill Industrial Zone has a multimodal access and is suitable for companies active in the circular economy, the manufacturing or processing industry or the energy sector. The site is located near a large pipeline hub and dock complex, including the Churchill Dock.

We are especially looking for investors who offer value-added services and create new jobs. The area is of particular strategic importance for the Antwerp Port Authority. We would therefore probably prefer a step-by-step development through one or more high-quality and cluster-enhancing investments rather than awarding the entire site to a single investor.

Digitization is also playing an increasingly important role in the chemical and petrochemical industry. Especially, the horizontal integration of value-added chains is becoming more and more important. How is the port of Antwerp positioning itself within this context?

J. Vandermeiren: Digitization has been an important topic for us as a port for many years. The Port of Antwerp already is a smart hub which

“Giving companies access to a pipeline network promotes the modal shift to more sustainable modes of transport.”

we are constantly developing with a forward-looking approach. In cooperation with our partners in the port community, we have implemented a variety of systems and applications

to simplify administration, make processes more flexible and at the same time create transparency at every stage of the supply chain. The latest project is the digital business portal Nxtport. It enables companies to collect and bundle all data generated at different stages of the supply chain and, at the same time, provides meaningful analysis and targeted supply chain solutions that cover all transport modes and processes along the supply chain. Nxtport has also won a project at European level for the chemical industry to develop an electronic tank cleaning document and act as a gatekeeper for the data.

As port authority, we are actively involved in this digital ecosystem, which we see as an important partner in the further development of the port as a role model for data-driven innovation. That is why we are also partnering with PortxL, a start-up accelerator that brings maritime startups into contact with companies in the port to accelerate the introduction of innovative technologies on the port platform.

And last but not least: What is your vision for the future? Do you have a strategy for developing the petrochemical cluster at the port of Antwerp in particular?

J. Vandermeiren: It is very important to me to keep our port at the top and to strengthen and further expand our position. The groundworks for this development have been laid — we positioned Antwerp as a smart hub — and of course will keep on going — we pushed ahead the development of important hinterland connections and made significant investments in infrastructure. Moreover, we are actively taking part in the World Ports Sustainability Program (WSPS).

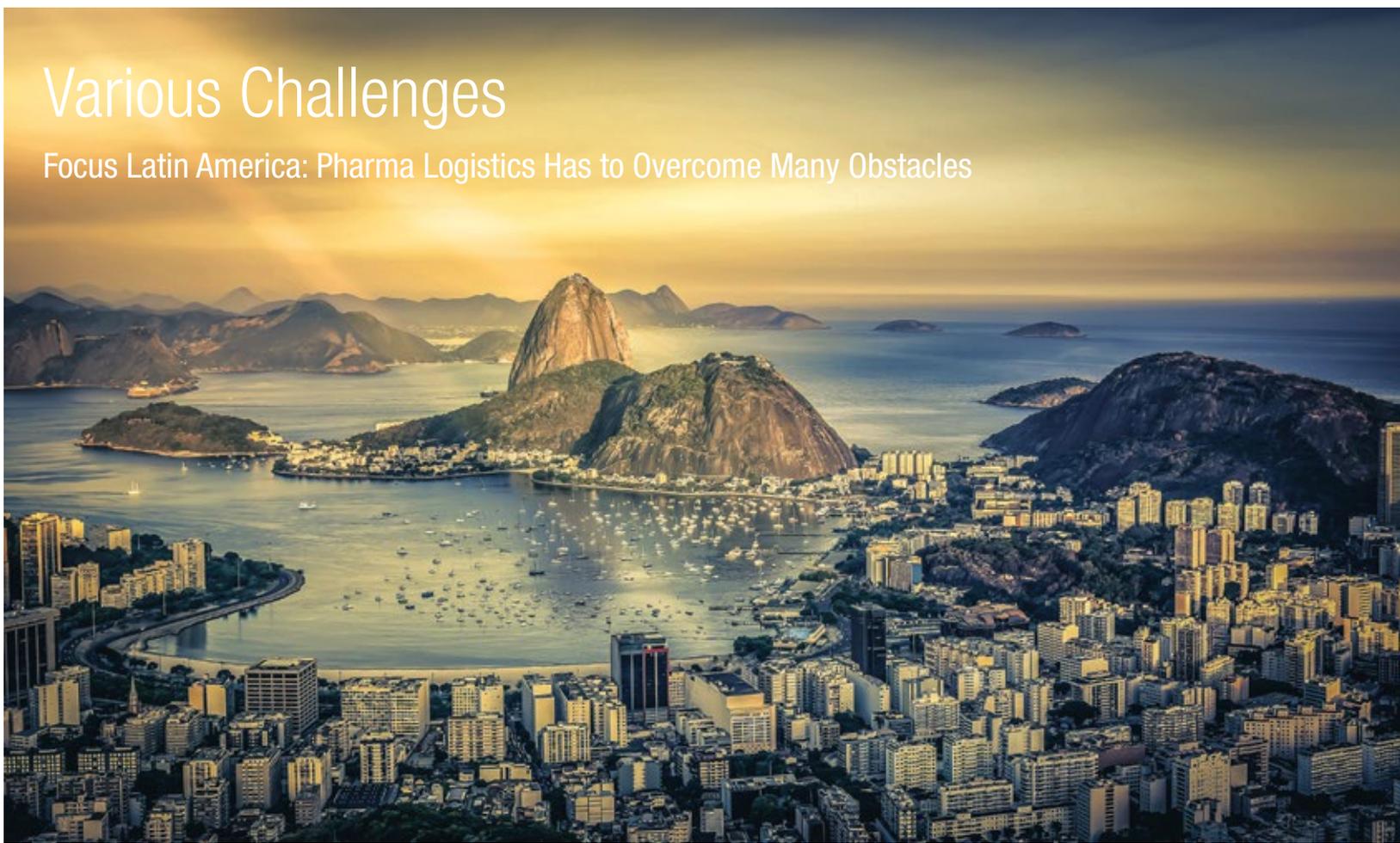
During the next one to three years, high investments of several companies in Europe’s largest petrochemical cluster will lead to an ever improved setting with positive impact on logistics as well as production opportunities. This will also initiate new global cargo flows.

Now, the creation of additional capacities, for example for container handling, is a high priority on our to-do list; several options are being investigated upon at a government level and we expect a decision by the end of the year.

www.portofantwerp.com

Various Challenges

Focus Latin America: Pharma Logistics Has to Overcome Many Obstacles



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With a compound annual growth rate of 7.9%, the emerging market of Latin America still offers exciting business opportunities to pharma companies. However, the particularities of the LATAM region create various challenges for pharma logistics. Based on real-life project experience, this article highlights the current situation and recent developments regarding pharma logistics in Latin America.

Compared to mature markets like the US and Europe, where the main growth needs to happen with new products and services, Latin America as an emerging market still offers potential for growth with existing portfolios.

Continuing Positive Outlook

The outlook for the Latin American pharma market remains very positive. Reasons for this are the region's traditional commitment to healthcare as well as its sheer size and the projected population growth. Additionally, due to stabilizing labor markets, the middle class is expanding further. All of this together will lead to projected growth in the healthcare market from \$364.5 billion 2016 to \$525.3 billion in 2021 with a com-

ound annual growth rate (CAGR) of 7.9%.

The most attractive market in the region is Brazil, followed by Mexico. However, in other markets such as Argentina and Peru, public healthcare coverage is also broadening, leading to great opportunities for the pharmaceutical industry.

Challenges: Price Pressure, Inflation, Illicit Medicine

The downside is that multinational drug makers are facing increasing pricing pressure and generic drug competition as a result of the cost containment policies launched in several markets in the region. Additionally, the considerable involvement of governments leads to a strong public market in the Latin American region.

For pharma companies, this means that a huge proportion of sales in the region must go through a government tender process requiring the lowest price. In addition to the general price sensitivity, this means that products need to be made available at short notice for government tenders. Shelf life requirements together with strict export regulations make it better not to import into the countries beforehand as it will be difficult to re-use imported goods.

Another challenge for pharma companies is high inflation rates in the region, which are clouding the economic outlook for the coming years in Venezuela and Argentina in particular. While economic reforms are on the way in Argentina to mitigate these issues, the situation in Venezuela remains dramatic, with the highest inflation rate worldwide and reported food and medicine shortages across the country.

The biggest issue that pharmaceutical companies are facing in Latin America, however, is the problem of illicit medicine. The Pharmaceutical Security Institute reports that counterfeit seizures have increased by 56% over the past 5 years. As fake drugs are not only an economic challenge for the legitimate pharmaceu-



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tical companies but also a tragic public health problem, the larger markets are installing serialization requirements for pharmaceutical products. Brazil as a pioneer was among the first countries to introduce serializa-

“Brazil has the most complex serialization track and trace regulations in the world today.”

tion requirements and has the most complex serialization track and trace regulations in the world today. A pilot project is currently running, leaving pharmaceutical companies with

a December 2021 deadline. From 2022, all pharmaceutical products will need to be serialized and traced throughout the entire supply chain. Argentina and Mexico are also in the process of fully defining and implementing serialization regulations.

Local Logistics Solutions

While the nature and growth of the Latin American market are promising, there are still various challenges for pharma logistics to solve in order to serve Latin America. The challenges start with the climate, with large parts of Latin America seeing hot and humid conditions. At the same time, volumes and requirements for the temperature control of pharma products are increasing. Temperature control is generally available for ambient and refrigerated storage, but reality often reveals temperature deviations, e.g. in the harbors of Brazil, where products are occasionally stored outside the temperature-controlled areas when full storage capacity is reached. This is in line with the observations from some of our projects that logistics capabilities in the region appear very good and professional in presentations and on paper, but in reality, warehouses failing audits are no exception.

With increased urbanization in recent decades, the population in Latin America is largely focused around big cities. While the distribution networks in urbanized centers are better developed, it remains a challenge to achieve coverage for rural regions too, as large distances between different centers and difficult topologies exist. Due to the large distances and different political situations, we have observed specialized local solutions and only very limited capabilities and networks across different countries. The diverse political landscape, where the different countries



LATAM health care sales revenue

establish their own inspection and GMP certification regimes, results in country-specific requirements for import and export.

Additionally, we see very different and highly variable lead times for customs clearance, due to required sample testing, for example. To fight counterfeit products, Brazil has established a process of sample testing within standard import processes, which can easily lead to a market release period of 30 – 40 days.

It is therefore no surprise that the typical pharma logistics setup requires a local distribution center and local inventory in each individual country. Many pharma companies typically distribute their products directly from production to the local stock locations in the country.

Alternative Distribution Solutions

However, having local distribution centers with local stock poses risks and challenges for the pharma companies. Pharma companies need to deal with many different partners, and the risk of obsolete products is increasing. We have also seen that it proves very difficult to re-export products from a country and make them available in neighboring countries, which makes it more difficult to react to demand changes.

This is one of the reasons why, in recent years, many pharma companies have explored the use of regional distribution centers (DC), which allow a consolidated stock pocket in the region and the more flexible replenish-

ment of local markets, reducing local stock in the markets.

However, in order to profit fully from this setup, either shared, regional packaging is necessary or postponement capabilities are required at the regional DC to customize for local packaging requirements.

These regional DCs also allow a shift from air freight to sea freight for primary transportation by consolidating the different inbound flows. Increased cost pressure in the Latin American pharma markets is one reason for this, but sea freight also offers better temperature control to maintain the refrigeration chain.

For regional distribution in Latin America, several countries are currently competing to be the entry point into the region. A typical setup in the past has often been a regional distribution warehouse in Panama. For primary distribution, the free-trade zone in Colon offers good sea freight connections from the low-cost suppliers in Asia as well as from the production plants in Europe, as well as cheap rates and reasonable lead times for transportation to local hubs.

In recent years, Uruguay has very actively set up and promoted itself as an alternative hub location for pharma products, especially for the southern region of Latin America. Uruguay offers import via air or sea freight and allows delivery to the large markets of Brazil and Argentina with very short lead times via road.

It will be interesting to see how the situation in Latin America evolves. Pharma companies are well advised to monitor these developments closely.

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Ineos and Imperial Order Four Butane Gas Tankers

Ineos and Imperial Logistics have placed orders with two Dutch shipyards for the construction of four new butane gas tankers for inland waterway operations. The VEKA Group in Werkendam will construct two vessels, which will each be 17.5 m wide and 110 m long. The building contract for two ships, which will each be 15 m wide and 110 m long too, has gone to TeamCo Shipyard in Heusden, the Netherlands.

Ineos and Imperial Logistics are working together closely on planning, constructing and operating the largest butane inland waterway gas tankers ever to go into service in Europe. “We’re absolutely delighted to have been able to gain two professional and experienced Dutch shipyards as partners to construct our special vessels in the form of the VEKA Group and TeamCo,” said Hugh Carmichael, director of Ineos Trading & Shipping. (rk)

Waterfront Shipping Orders Methanol-fuelled Vessels

Marine transportation company Waterfront Shipping, a wholly owned subsidiary of Methanex, has announced plans to invest in four more ocean-going vessels powered by methanol. The investment will be done in collaboration with Swedish ship management company Marinvest/Skagerack Invest (Marinvest), Japanese ship operators IINO Kaiun Kaisha and NYK Group, and trading firm Mitsui. The order follows the delivery in 2016 of seven me-

thanol vessels, which Waterfront said have been operating safely and reliably across the globe for more than a year. These were built with first-of-a-kind engines from Germany’s MAN, which can run on methanol, fuel oil, marine diesel oil or gas oil.

The new vessels, each with a deadweight tonnage (dwt) of 49,000, will be constructed at the Hyundai Mipo dockyard in South Korea. Delivery is scheduled for 2019. (eb, rk)

Chemspec Europe 2018

The 33rd edition of Chemspec Europe will take place on Jun. 20 – 21, 2018 in Cologne, Germany. The event includes an exhibition as well as conferences and seminars and offers

manufacturers, suppliers and distributors of fine and specialty chemicals a dedicated marketplace to meet with buyers.

www.chemspeceurope.com

FEICA 2018 Conference and Expo

The Conference and Expo of the Association of the European Adhesives and Sealants Industry (FEICA) on Sept. 12 – 14, 2018 in Riga, Latvia, provides insights into the key issues

affecting the industry and networking opportunities for formulators and materials suppliers to discuss the business environment.

www.feica-conferences.com

EPCA Annual Meeting 2018

The annual meeting of the European Petrochemical Association (EPCA) provides a unique platform for the global chemical business community to network, discuss collaborations

and developments and hear from an impressive line-up of world-class speakers. The event will take place on Oct. 7 – 10, 2018 in Vienna, Austria.

<https://epca.eu>

CPhI Worldwide 2018

CPhI Worldwide is the leading networking event and exhibition in Europe dedicated to pharmaceutical research and development, trends, products and services, including APIs, excipients, ingredients, con-

tract research and custom manufacturing, process and packaging equipment. This year's edition will be staged at Madrid, Spain on Oct. 9 – 11.

www.cphi.com

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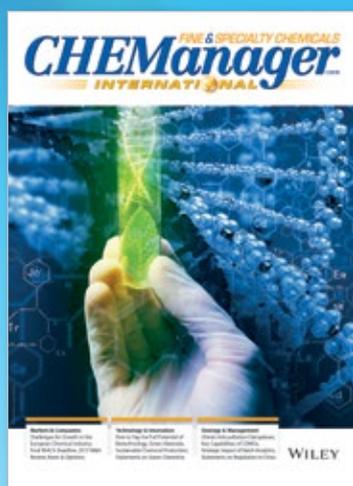
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