

REPORT OF THE EPCA 2013 47TH ANNUAL MEETING

Hotels InterContinental
& Pullman Schweizerhof
Berlin, Germany
5 to 9 October 2013



GENERAL BUSINESS SESSIONS

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Global Leadership and the Chemical Industry

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 - Mohamed H. Al-Mady, Vice Chairman and CEO, SABIC CORP.
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 - Peter Holicki, Global Vice President Operations Ethylene Envelope, Vice President Operations Europe, Middle East, Africa, DOW EUROPE
 - Holger Hüppeler, representative of "Together for Sustainability", Chief Procurement & Logistics Officer, LANXESS DEUTSCHLAND GmbH
 - Andrew Jackson, President & CEO, AGILITY CHEMICALS
 - Paul Lord, Research Director, GARTNER

Nadine Dereza, Moderator

TUESDAY 8 OCTOBER 2013
CLOSING LUNCH



Keynote address by President Bill Clinton, Founder of the Clinton Foundation and 42nd President of the United States.



MONDAY 7 OCTOBER 2013

OPENING SESSION

Global Leadership and the Chemical Industry

WELCOME INTRODUCTION



Jan Van den Bergh, President Advanced Intermediates, Evonik Industries AG, EPCA President

Despite its challenges, Europe's chemical industry is still "keeping the wheels of industry rolling with sustainable products and sustainable solutions, for today and tomorrow", said EPCA president Jan Van den Bergh, welcoming delegates to the association's 47th Annual Meeting. Providing global leadership is a big task, which requires "visionary power", he continued.

"Europe's chemical industry is still keeping the wheels of industry rolling with sustainable products and sustainable solutions, for today and tomorrow"..."

Europe's chemical sector is continuing to face a difficult economic situation, including high priced energy, extreme volatility in raw material costs, and EU regulation. In addition, the industry must cope with overcapacity, and international competition, said Van den Bergh, who serves as President Advanced Intermediates, Evonik Industries AG. As well as "targeting efficiencies", companies need to "anticipate and adapt," he told delegates. Recognizing that all companies should

have a "vision for the future," the EPCA president said they should address key questions about how to make vision a reality: "What tools do we have? Do we need to develop new solutions? What kind of leadership do we need? We will need new raw materials. We certainly need intelligent, well-trained and innovative people."

"The industry needs to get young people excited about a career in chemistry or engineering by showing them the innovative solutions to today's problems that chemistry and chemical products provide."

He praised the work of EPCA, in tandem with other organizations that is encouraging young people still in education to join the industry and become "our next generation." With groups such as inGenious and UNESCO, EPCA's outreach work is building links between the teaching profession and business representatives. But the industry needs to get young people excited about a career in chemistry or engineering by showing them the innovative solutions to today's problems that chemistry and chemical products provide, Van den Bergh insisted.

It is appropriate that EPCA sponsored Berlin's 25th Mini-marathon this year, the Evonik executive said. "Like the 8,000 kids and 40,000 adult runners...we are in a long-distance competition. But our companies are in good shape to achieve challenging goals."

Remarking that attendance at the EPCA's 2013 Annual Meeting was at record levels, with over 2,700 registrations.

Van den Bergh explained that Kurt Bock, Chairman of the Board of Executive Directors, BASF SE, and Mohamed H. Al-Mady, Vice Chairman and CEO of SABIC, would offer their views from the perspective of global companies headquartered in Europe and the Middle East respectively, while Niall Ferguson would outline his view of the industry's outlook from an economic historian's perspective.

SPEAKERS' INTRODUCTION



“Great vision combined with great global leadership” will be essential to securing future business success, business session moderator, Nadine Dereza, told delegates. In the face of tough market conditions, the “industry of industries” – the chemical sector – continues to have many bright spots and to meet its challenges, and must continue to seize its opportunities in Europe and beyond, she said. After these brief remarks, Dereza introduced the first speaker.

1. THE VISION OF A EUROPEAN HEADQUARTERED GLOBAL CHEMICAL COMPANY



Dr. Kurt Bock, Chairman of the Board of Executive Directors, BASF SE

BASF’s chairman began with praise for a fellow speaker, recommending historian Niall Ferguson’s book, *The Great Degeneration*, which identifies complacency and lack of leadership as a factor in the decline both of institutions and economies. Looking forward, Bock said he would discuss global trends and developments, and their consequences – for industry as a whole and for BASF.

Looking first to the past, Bock identified an apparently unlikely success story – the Citroen 2CV. “This really ugly car, was launched 65 years ago on October 7th 1948. It was designed as a low-priced car that could carry two farmers wearing clogs, a sack of potatoes,

and a barrel of wine, travel at a top speed of 50km/hour, do 100km on 3 litres of fuel, and drive across a ploughed field without breaking any of the eggs on board. It was a huge success. After one year, there was a waiting list of five years.” Be like the makers of the Citroen 2CV, Bock urged the audience: focus on innovation, anticipate and exceed customer demands and expectations, and develop better products.

The scope for innovation has changed. Having passed through several phases since the mid-19th century – from developing new molecules through to the 1950s, the age of plastics from 1950-1980, and a period of improved applications through to 2000 – Bock said the chemical industry is now in the phase of supply new solutions for customers, which goes far beyond supplying products, and must focus on innovation and sustainability. For example, by 2020 Germany is targeting 1 million electric cars. To make this a reality, the chemical industry is developing new materials for batteries that will enable these vehicles to travel 400km before recharging compared to today’s 40km.

Sustainability must be more than a buzzword, Bock continued. It is the goal for which chemistry can provide solutions, and it is vital that the industry helps society address all the major challenges it faces, including social, work, economics and environmental issues.

However, we must be realistic. In Bock’s view, renewables, while contributing to energy sustainability, are not a viable substitute for carbon-based fuels – coal, oil and gas – in a world where future energy demand will be escalating. However, in the emerging markets – particularly in Asia – where automotive production is set to double in less than 10 years, there are “huge challenges and huge opportunities for the chemical industry in developing products and helping to mitigate traffic and pollution issues.”

“... renewables, while contributing to energy sustainability, are not a viable substitute for carbon-based fuels – coal, oil and gas – in a world where future energy demand will be escalating.”

Looking ahead to 2030, the BASF executive said he does not foresee a major change in the global fuel mix as oil, gas and coal continue to play the most important role in meeting energy demand, despite a small rise in renewable and nuclear energy. “While OECD energy demand is set to remain static, non-OECD energy demand is set to double by 2030, and coal will become even more important. In this scenario, I doubt we can achieve global emission reduction targets without a huge change in lifestyle

expectations.” Bock said the problem is not insufficient availability of carbon energy resources, but rather the challenge of coping with additional CO₂ emissions that increased fossil fuel-based energy demand will entail.

“I doubt we can achieve global emission reduction targets without a huge change in lifestyle expectations.”

Turning to raw material price volatility, the BASF chairman noted that alongside oil, agricultural commodities such as wheat, cotton and sugar, which impact the chemicals sector, also face price instability. The challenge is to manage the risks of price volatility and to have raw materials flexibility. Bock also drew comparisons of regional feedstock prices based on energy prices. While coal in China is competitive with US Gulf Coast natural gas, for example, the price of feedstock based on renewables – such as sugar – is much higher.

Moving quickly, Dr. Bock, turned to his company’s response to global developments and megatrends. BASF, he said, is focused on creating chemistry for a sustainable future, and adding value as one – highly integrated – company. Placing great stress on BASF’s integration across products and businesses, which he says gives it a fast forward in anticipating and meeting emerging challenges, Bock said the company was also working closely with suppliers and customers and keeping pace with the changing needs of society and consumers.

“BASF is focused on creating chemistry for a sustainable future, and adding value as one – highly integrated – company.”

Tracing industry restructuring over the past three decades, BASF’s chairman noted how some famous old names – such as ICI and Hoechst -have disappeared, and new players have entered the market. Over this time, we have also witnessed a major shift in the balance of global production as the Middle East, Asia and Latin America have developed significant manufacturing capacities.

Bock then described how over 15 years ago, BASF decided to quit some businesses and has moved from being a pharmaceuticals and chemicals company to become “a pure chemicals business.” While divesting around €11bn in sales, BASF has added around €16bn through acquisitions, he noted. Today, the group is

focused on its own technology, and on innovation and customer collaboration, based on a very strong backbone in petrochemicals with a global manufacturing capability. As an example of innovation opportunities, Bock noted that new EU emissions regulations coming in 2017 are driving the development of a new 4-way conversion catalyst.

Concluding with an overview, the BASF chairman urged the industry to connect with stakeholders, and stay close to customers and markets, and not to bet on cheap feedstocks. “Oil and gas will be around for decades – there is no shortage, we are not running out – which means the petrochemical industry does not have to worry about its future. We can be proud of our developments and achievements, and should talk more about them. The industry needs to explain why it is the solution to the challenges of sustainability, not the problem.”



2. THE VISION OF A MIDDLE EAST HEADQUARTERED GLOBAL CHEMICAL PRODUCER



Mohamed H. Al-Mady, Vice Chairman and CEO, SABIC CORP

“Back in 2005, I spoke at EPCA and made some predictions. Some came true, but I did not anticipate

the rise of shale gas or the great recession. But these events, along with the rise of the emerging economies as producers and consumers, have radically changed the world in which we operate, particularly for the European chemical industry," Al-Mady began.

SABIC's CEO also noted elements of surprise that can be game-changers: "If anyone in 2005 had forecast that in 2013 the US would be a net exporter of energy they would have been the subject of ridicule." Things change fast and in ways we can't predict. So, for all the above reasons, Al-Mady said it was with utmost reservation and humility that he was venturing back to crystal ball gazing about the European industry in a global context for the next few years.

Pointing delegates towards CEFIC's "excellent 2012 review of conditions impacting the European chemical industry," the SABIC CEO said he would try to avoid repetition and look at the industry's current dilemmas. Turning to factors for success, Al-Mady noted these are different for commodity and differentiated products.

Commodities, such as petrochemicals, polymers and industrial chemicals, are mass produced, very price sensitive, and attract little or no customer loyalty, he noted. The keys for success in commodities are advantaged feeds, integration, world scale assets and process technology, lean organizations, and efficient supply chains.

"The keys for success in commodities are advantaged feeds, integration, world scale assets and process technology, lean organizations, and efficient supply chains."

Differentiated products, including fine chemicals and specialties, are often small volume, application- and performance- related, relatively highly priced with relatively inelastic returns, Al-Mady continued. Keys to success in these markets are raw material procurement optimisation, integration, process and product application technology, having differentiated performance products and solutions, with flexible manufacturing close to market, responsive to changing needs of customers.

Regardless of the differences between these two product groups, both need to be aware of emerging global megatrends, such as economic growth, access to resources, demographics, technology development, and consumerism and urbanization, Al-Mady said. These define the challenges industry faces, and a select few can have a profound impact on chemicals. They are often unique to regions or markets but have global ramifications. Leveraging these megatrends is crucial to global leadership.

Changing demographics offer challenges and solutions, the SABIC CEO suggested. The right way forward is through targeting consumers in emerging markets and wealthy middle classes in developing economies.

"In terms of the global economy, it's important to establish a strong presence in developing markets to secure future growth. This is what BASF is doing, as we heard earlier." It is also important to secure safe access to global feedstocks. Technology development can provide game-changers, which lower threshold cost to consumers, but can also shorten product lifecycles, Al-Mady continued. Consumerism and urbanization, particularly in Asia and Africa over the next 25 years, will require mobility and consumer goods, which creates opportunity for the chemical industry. "In my opinion these parameters are at the heart of global business success," he said.

These leadership parameters are at heart of competitiveness in the European industry in 2013 and beyond. "SABIC is part of this community and takes a strong interest in the health of the European chemical industry," Al-Mady insisted. SABIC global revenue has risen from \$0.5 bn in 1985 to \$50bn in 2012, of which around 20% came from Europe, Al-Mady noted. "It is in this context, that I want to discuss the many strengths and some of the weaknesses that define the current European industry."

He identified strengths as being well-established industrial sectors, an excellent technological base, and an intelligent and enterprising workforce. Its weaknesses, he suggested, include ageing and sub-world scale plants, zero or negligible energy or feedstock advantages, a high-wage labour market, saturated local markets, and over-regulation.

These weaknesses will be amplified in the future and the strengths will come under increasing pressure, the SABIC CEO suggested. A good example of this pressure is provided by European polyethylene demand, which peaked in 2012 at 14.8m mt, but has since dropped by over 2m mt in 2012 to 2007 levels. Furthermore, the percentage of European PE demand met by imports is rising and could reach 2m mt by 2020, which could mean more regional asset closures in the face of a decreasing European market.

"Europe must face up to a new reality."

Al-Mady said Europe must face up to a new reality. Pre-1960, when US and Europe virtually ruled the global market, technology was closely guarded by the producing companies and the world looked to these regions for all their requirements, he noted. But now technology is freely available, everything has changed. Cefic's report suggested that from 2001 to 2011 Europe's share of world wide chemical sales fell by about one third. China and the Middle East have captured

significant market share and today compete with European exports in traditional markets. Moreover, most chemical investment is centred in fast-developing regions.

Al-Mady also noted that comparisons between Europe and the rest of the world show a continuing erosion in the strength of European patents and science graduates against regions such as North America and, especially, China, which is seeing numbers soaring. Further challenges to the European industry are public pressure and burdensome regulations, Al-Mady noted. For example, shale gas drilling restraints are holding back potential feedstock development in Europe.

In the SABIC CEO's view, Europe's industry needs to embark on a period of transition. It must drive towards more cost efficient manufacturing and look to optimize along the entire value chain. It must also retain technological leadership in its key value chains and target sustained development and export of differentiated goods and technologies. It must also offer solutions to the challenges facing society as a whole, adjusting to changing patterns of consumption while spearheading low environmental impact products, services and technologies.

For its part, SABIC is practicing what it preaches. Al-Mady says it will continue to focus on resource- and cost-efficient manufacturing, developing technology from its growing innovation portfolio, and utilizing an optimal value chain to meet both Europe's needs and develop products and technologies for export.

As change is inevitable, SABIC's CEO closed with some suggestions about industry's needs. He argued for competitive regulations that would encourage and enable more cost- and resource-efficient production and products. He also suggested targeted incentives are needed to encourage innovation at the development stage, and thirdly consistent and competitive regulations to enable the industry to develop the solutions society needs. On this last point, Al-Mady said regulation could drive zero energy housing, promote insulation, encourage the use of heat pumps, all of which reduce the environmental impacts of energy use and offer opportunities for chemicals. In the automotive sector, industry products – lightweighting, better lubricants – are already enhancing fuel efficiency and reduce CO₂ emissions. Nano-technology is opening up new opportunities in all sectors, from automotive and aviation to dyes, he noted.

In conclusion, Al-Mady acknowledged the challenges ahead, but remains optimistic. "This industry will play an important and prominent role. It needs to remain knowledge-driven, diversified, and be proactively driven by needs of society."

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3. THE VISION OF A HISTORIAN



Prof. Niall Ferguson, Laurence A. Tisch Professor of History at Harvard University

With his first slide asking: "The End of the Age of Petrochemicals?" Niall Ferguson immediately indicated he foresees a challenging future for the sector. "You may be wondering what business an economic historian has coming to a conference like this," Ferguson said. "I'm here to offer some historical perspective, because I believe no industry can ignore history." Before 2008, the Harvard professor continued, he had spent "a lot of time talking to bankers and other financiers about the dangers of a liquidity crisis to a massively overleveraged financial system. So I think I have a track record of inferring important lessons from history for at least one sector. Can something similar be done for chemicals?"

"I believe no industry can ignore history."

Ferguson agreed with many of the conclusions of the previous speakers, but added some thoughts on some potential future scenarios and challenges for the chemicals industry. On the supply side, he agreed that innovation will not stop, that geographical and energy/feedstock diversification will continue, and that commodity price volatility will continue. On the demand side, he agreed that we are seeing a re-convergence of Eastern and Western civilizations, which he described as the "big story." He also said we are witnessing the degeneration of Europe. "The good news for Europeans comes from outside Europe. It comes from the megacities in which non-western peoples will be living western lifestyles in massive, unprecedented numbers. That is the future your industry is betting on." Ferguson also suggested that history is a story of fuel diversification, but he did not foresee renewables "providing the majority of our needs in our lifetimes."

“The good news for Europeans comes from outside Europe. It comes from the megacities in which non-western peoples will be living western lifestyles in massive, unprecedented numbers. That is the future your industry is betting on.”

“I love the long run,” said Ferguson, reviewing commodity prices from 1900 to 2012. Today’s prices relative to average long-run real prices, show mostly mean reversions, with the exceptions of gold and oil, the latter of which is particularly important to the chemical industry. “For some reason or other, oil is not behaving like other commodities. It’s behaving more like gold, which is shiny and rare. What’s going on?” Ferguson asked. The standard answer, he said, is that a) OPEC regained control of supply and b) that emerging market consumption soared. Ferguson said he did not believe these two reasons accounted for the huge deviation from trends.

“... oil is behaving like gold ...”

“Look at per capita GDP ratios. When EPCA was created, the average American was 20 times richer than the average Chinese. Right now, it’s probably about five times. But in the future that is likely to fall below two times, if the OECD is right. That’s staggering, and takes us back to the Ming era, to before the great divergence between the West and the Rest. We can expect a lot more convergence,” Ferguson suggested. “Part of what is driving convergence is the under performance of Europe. According to IMF figures, most European countries are under performing and are likely to do so for at least a couple more years. Why? Probably in part, due to monetary union,” Ferguson added. Europe has tied itself in fiscal and regulatory knots, and also faces demographic issues. “So the compensation comes from outside Europe, the megacities,” said the professor.

By 2030, he noted, there will be nine cities in the “Restern” world – principally Africa and Asia - with populations over 20 million. “In Europe, that many people would qualify you as a major state.

“So, what are we missing? So far I’ve agreed with my esteemed fellow speakers. But now let me offer some different trajectories,” Ferguson said. “I want to suggest the possibility of some fundamental technological disruptions. Don’t assume gradual change, that’s fatal. In particular, we should factor in much greater political instability in or near major oil production centres.”

On the demand side, Ferguson suggested that the financial risks to growth in emerging markets, especially but not only China, may be bigger than we imagine. This could disrupt the great re-convergence or at least slow it down. He also suggested we should factor in a danger of developed market growth under-shooting: in the face of the good news story about US energy, shale gas and tight oil, we should also remember there is a huge issue of fiscal and monetary policy that is yet to be resolved. Ferguson also raised concerns about betting on the development of global megacities to drive growth. Some are vulnerable geologically, and to other geographical factors.

“... the financial risks to growth in emerging markets may be bigger than we imagine.”

“Could this be the end of the age of plastics?”, Ferguson asked. We have gone from The Graduate, where the future was seen as “Plastics” to today’s floating islands of waste plastics polluting the world’s oceans, he noted. Speculating on whether the age of plastics could end in our lifetimes, the historian wondered whether the pioneering bio-engineering work of Craig Venter and others could render plastics as anachronistic as plastic rendered wood in the 1960s. He didn’t know. But Ferguson’s point was that we should always factor in the paradigm shift: while science usually changes gradually, and technology evolves, they are both punctuated by massive disruptions.

“... we should always factor in the paradigm shift: while science usually changes gradually, and technology evolves, they are both punctuated by massive disruptions.”

If we don’t have a massive technological disruption that liberates us from petroleum, then we must depend on the Middle East - a “war zone” – the “most dangerous place in the world,” for our oil. “Forget shale gas and tight oil, it’s all about the Middle East. Forecasts suggest 75% of new oil will come from the Middle East.”

In that region, a major revolution is underway that the western press had misnamed the “Arab Spring,” Ferguson said. But it has become something else – a battle over the role of Islam in politics, which is a highly disruptive force. This is not surprising. As Ferguson has previously claimed, when empires retreat, violence surges. To date, this instability has

not dislodged a monarchy in the region. But Ferguson said those monarchies pay a very high price to their citizens to not destabilize or overthrow them. Nevertheless, the professor suggested that instability would rise, bringing greater disruptions in oil supply over the next decade. Might the term “Islamist Winter” be more appropriate, he wondered?

Ferguson also returned to the fiscal and economic challenges facing the US, especially its “debt hangover,” which the country is failing to address and which, if left unresolved, could eventually cause even greater global economic disruption. The share of tax revenues going to cover interest payments is set to explode, he added.

“Meanwhile, Asia is coming to terms with being the energy importer of first resort,” Ferguson said. “And China also finds it has a financial problem as big as the US in 2007, if not bigger. If you don’t see this, then you are not paying attention.” When this crisis comes along, we’ll all have to revise our thinking.

Concluding, Ferguson said: Do not think the future will be like the past, or make assumptions about incremental change and innovation. Do not assume continued re-convergence of East and West, and do not assume a rough balance between supply and demand. History’s lessons suggest the next 30 years could see change as rapid as the last 30 years. In 1983, Berlin was divided and no-one grasped the growth potential of China, and oil was \$30 a barrel and falling. We need to brace ourselves for much more technological and geopolitical disruption. “The end of the plastics age is nearer than we think.”

“We need to brace ourselves for much more technological and geopolitical disruption.”



Global Leadership and the Chemical Industry



Nadine Dereza: Can I ask you all how you would define global leadership?

“ How would you define global leadership? ”

Nadine Dereza

Niall Ferguson: Very simply. We used to have leadership from somewhere called the White House. The most important leader in the world was the US president. But we did not discuss the consequences of the absence of leadership in Washington D.C., not just in terms of playing Russian roulette with fiscal policy, but also in terms of not having a foreign policy.

Dr. Kurt Bock: I will stick to chemical industry and not talk about the global historical context. I think the answer is in innovation and sustainability. I think it's very important because if Asia wants to have our western standards of living then we will need much greater resource efficiency. Just one point on the end of plastics: If you think of the plastics age as another way of saving the oil age, then don't worry: we're not going to run out of oil.

“ ... the answer is in innovation and sustainability. ”

Dr. Kurt Bock

Mohamed Al-Mady: It's simple: acting responsibly. Choosing the right market, focusing on innovation, sustainability.

“ ... acting responsibly. ”

Mohamed Al-Mady

Nadine Dereza: Can I ask you about the types of leadership we have and the type of leadership – the qualities – that our leaders should have?

Niall Ferguson: The leaders we need are those who can push back against conventional wisdom. That doesn't happen enough. Typically leaders have the “group-think” and the “yes-man” problem. Strong leaders generally are attracted to people who agree with them. It is extremely rare to have a leader confident enough to have a contrarian in the room. So the defining attribute of a great leader is readiness to listen to contrarians. And just to return to what Kurt was saying, the age of plastics won't end because oil runs out. Energy transitions happen when technology renders one fuel less attractive than it was before. I think oil's problem is in the price.

“ ... the defining attribute of a great leader is readiness to listen to contrarians. ”

Niall Ferguson

Nadine Dereza: Given the issues you've discussed about megacities and gridlock, what do you think about the potential for doubling the market for cars, given the importance of the automotive industry for chemicals?



Nadine Dereza, Moderator

Niall Ferguson: I was at a fascinating conference at Aspen where some of the great innovators of the technological world were present, and there was a very interesting conversation about transport problems. Someone from Google suggested the answer was to take to the air in personal helicopters. But I think it far more likely the answer is closer to the ground, and that what's really needed is computer-controlled cars, which could solve traffic issues.

Mohamed Al-Mady: Just a comment on leadership and innovation, and why companies don't think outside the box. The challenge is about who is going to venture outside their comfort zone? There is a saying in Arabic: The last goat in the herd is going to be eaten by the wolf. So it's better to flock together.

“... on leadership and innovation the challenge is about who is going to venture outside their comfort zone.”

Mohamed Al-Mady

Nadine Dereza: Kurt, what do you think are the strengths and weaknesses in leadership in the global chemical industry, and can you tell us about BASF's decision to invest in Asia?

Dr. Kurt Bock: “In continental Europe, we are a mature industry, and we have a more developed sense of environmental issues and challenges. That's a strength, and gives us the opportunity to take our products and services into the emerging markets to provide solutions to their challenges. When we went into China 15 years ago, many people told us it was a very stupid thing to do, because there's no feedstock, you have to deal with the communist

system, and there are huge commercial challenges. But we made a leap of faith.” Today, he said, the evidence is showing that BASF made the right decisions, and the convergence of regulations and business conditions make it both easier and profitable to do business in China.

Nadine Dereza: Why did you take the decisions to move away from pharma, even though the human condition demands healthcare, and also to not be in the Middle East.

Dr. Kurt Bock: We had a pretty good mid-sized pharma business, with good product development, but we needed a marketing partner and we needed to decide if we should stay a pharma plus chemicals company, or a pure play chemicals company. We decided that if we wanted to be number one in chemicals, we really needed to focus on it. We weren't going to be the number one drug company, and we were offered a good price for the business. On the issue of investment in the Middle East, we decided that we would focus on building our North American business and Asia where existing and growing demand was centred. We can't put eggs in too many baskets. So we're staying close to market, which is why we're not in the Middle East.

Bringing the session to a close, Nadine Dereza asked the panellists to share their final thoughts for the future.

“ Final thoughts for the future? ”

Nadine Dereza

Dr. Kurt Bock: The industry has a good image in the developing world, and we are developing the technological solutions that will help meet the challenges being faced by the megacities. We will face disruptions, but I think we have the strengths to deal with them.

Mohamed Al-Mady: I'm very optimistic about the future. There will be disruptions, but I think we will make progress with breakthrough technologies and feedstocks.

Niall Ferguson: I think we will face ongoing disruption, and suggest we should optimise and build robustness against the advent of “Black Swans.”



TUESDAY 8 OCTOBER 2013

SUPPLY CHAIN SESSION

Global Leadership and Chemical Supply Chains

INTRODUCTION



Raf Bemelmans, Chairman of the EPCA Supply Chain Program Committee, and Director Supply Chain Polymers Europe, SABIC.

Waving a copy of the EPCA's newly published report, *Sustainable Chemical Supply and Logistics Chains – The Path Forward*, Raf Bemelmans noted that ours is a world of complexity, uncertainty, and disruptions, where we face events and developments we are unable to influence. "However," he continued, "there are some things that we can influence, and one of them is the supply chain in our industry and our companies. The intelligence on how that works is depicted in this report. It does not contain issues. It contains solutions. It contains over 30 case studies of shared knowledge on how to make your supply chain better."

Bemelmans explained that the report is the culmination of widespread discussions and intensive workshops focusing on resilience, robustness, technology, and cooperation. Over two years, more than 50 people from producers, logistics service providers, consultants, academia, and from EPCA and CEFIC, had participated in three parallel working groups to identify solutions. Having produced the report, the intention of the day's session – a presentation and panel discussion – was to prompt questions and observations from panellists and the audience that will influence future EPCA supply chain work.

With shale gas and advantaged feedstock outside Europe, the supply chain is becoming more global, more complex,

with more transition points, Bemelmans noted. "It must also become cheaper and more sustainable," he said. In the face of these challenges, one-size-fits-all strategies no longer provide the right approach, so alternatives are required. For this reason, Bemelmans said, the new report provides a theoretical framework to explain how things work, and offers 30 case studies – mostly with named companies – to use as guides and ideas for improvement.

"... the new report provides a theoretical framework to explain how things work, and offers 30 case studies – mostly with named companies – to use as guides and ideas for improvement."

The report shows how complexity and uncertainty are two different things, he said. "Complexity you can handle by expertise, and there are solutions to challenges. Coping with uncertainty is different. It means positioning strategically. This report explains how to distinguish between complexity and uncertainty, and offers solutions on how to approach them. It offers approaches to standardisation, outsourcing, on where to produce, on where to put your transition points."

Bemelmans closed by addressing collaboration and sustainability. Many of the case studies are about 'collaboration,' the SABIC executive noted. "But this report doesn't just talk about collaboration, it demonstrates collaboration." Respecting competition law, he said pro-competitive collaboration is now being recognized by the European Commission as a means of working together for the benefit of customers, for enhanced sustainability, and improved profitability. "There are times when you can share data - vertically, with service providers, and also horizontally with competitors. You may do this primarily for reasons of efficiency or profitability. But it is likely that you will also achieve benefits for people and planet. Do not forget *Responsible Care*, it's how our industry is collaborating and contributing to the enhancement of Europe's sustainability. It's about people, planet and profit. Please take a copy of the report, read it, and then give it to your chief executives and urge them to take action."

Nadine Dereza

Before introducing the keynote speaker, Nadine Dereza commented the supply chain report, saying it was “easy to read, like a textbook. You can probably get a degree in supply chain management having read it!” In changing times, she noted, it is essential that supply chains remain responsive and the report offers insights into how best this can be achieved. Dereza also welcomed a group of 40 teachers to the EPCA annual meeting. Part of the European School Network, these educators are key conduits for bringing students into the chemical industry, and are focused on STEM (Science, Technology, Engineering and Maths) – subjects which are essential for supporting the sector, she said.

Dereza then introduced the session’s keynote speaker, Paul Lord, a research director with supply chain specialist, Gartner. The moderator said that having spent over 25 years in the chemical sector, working in areas from R&D and operations planning to distribution and product management, Lord’s industry knowledge is broad and deep.

KEYNOTE SPEECH



Paul Lord, research director with the industrial value chain group, Gartner

Paul Lord said he would talk about three things: First, chemical industry supply chain strengths and opportunities; second, the EPCA’s new supply chain report; and third, routes to achieving supply chain excellence.

In the 21st century, the Gartner research director stated, supply chain excellence is defined by the balancing and synchronisation of supply networks with products and services portfolios and sales and marketing strategies. “The chemical industry has strengths in all these domains. It is excellent in strategic planning and thinking, innovation and development of high value products and solutions, the design and safe operation of assets, as well as resourceful sourcing and sales and marketing,” Lord said. But the real challenge is aligning sales and marketing, supply networks, and products and services to generate value for people, profit and planet.

There is no single way to achieve this in the chemical industry because of its diversity, Lord continued. Value is driven from a combination of product line portfolio and competitive advantage in the supply networks. So it is important to understand where value is derived, and then to identify how best to align demand strategies, supply networks and product portfolios to unlock it.

“It is important to understand where value is derived, and then to identify how best to align demand strategies, supply networks and product portfolios to unlock it.”

There are four primary areas of opportunity for chemicals, Lord suggested: demand management; supply chain-manufacturing integration; product life cycle management and complexity management; and in governance, technical enablement and performance management.

Key to demand management is understanding how customers define value, and then using those insights to align supply networks and product portfolios, thereby moving into a market-driven rather than a sales-driven approach, Lord added. “So the first paradigm shift is to educate, influence, and collaborate with our commercial partners, so they understand the issues and align their demand management and tactics to extract maximum value from product portfolios and supply networks.”

There is a similar challenge and opportunity in integrating supply chain with manufacturing, Lord continued. In most companies, supply chain and manufacturing are separate organizations, with attendant disconnects between their operating plans. These occur because supply chain tends to operate on ERP systems, and look at information in a different way to manufacturing, and also because they may be incentivized and measured differently. Therefore some alignment and integration is required to bring supply chain and manufacturing together into an integrated supply network that delivers the right demand response.

“... integrating supply chain with manufacturing ...”

The third area of opportunity is related to complexity in the product life cycle portfolio, Lord said. This is where some of the leading companies in consumer electronics and consumer products excel. They have very short product life-cycles, a lot of turnover in their product lines.

They really pay attention to new product launch but also to end-of-life management, to flexible and agile response to demand and manage complexity in product management to optimise both the cost of the flexibility of the supply network.

“So each of these three examples I’ve discussed so far illustrate the need for the supply chain leader to become an educator, influencer and a collaborator with these other functions in his own company, which helps to achieve that optimal balance,” Lord added.

“Finally, the goal for the supply chain is to translate a demand signal into a sustainable, profitable, and resilient supply response,” the Gartner director said. This becomes a complex layering of decision processes that involves some new approaches in terms of governance, technical enablement, and performance management of business processes.

“The goal for the supply chain is to translate a demand signal into a sustainable, profitable, and resilient supply response.”

Gartner’s Supply Chain Top 25 is nearing its 10th anniversary, Lord continued. Introduced originally by AMR Research, it was launched to highlight the importance of supply chain capabilities to business success. “It’s created lots of discussion and controversy over rankings, and methodologies,” Lord admitted. “What I’d say is that for the top 25 companies, supply chain isn’t just an operating organization, it is really a business strategy, and extends across the entire company. Supply chain excellence is a matter of survival and success for the top 25.”

Those in the Gartner Top 25 tend to be “consumer electronic companies with very short and challenging product life-cycles; consumer product companies with very fast-moving supply chains with fair amounts of cost pressure; and retailers, where there is a lot of inventory risk and fast-moving supply chains and thin operating margins,” Lord explained.

“The chemical industry is a strategic supplier to almost all those ranked in the top 25 ...”

Observers might ask why are no chemical groups in the top 25, Lord acknowledged. But he pointed out

that there are in fact several companies – such as Procter & Gamble, Johnson & Johnson, and 3M – that have significant chemicals operations, and that the chemical industry is a strategic supplier to almost all those ranked in the top 25, which includes hi-tech, automotive, apparel and packaging industries. So for that reason, the Gartner Top 25 offers chemicals marketing insight and intelligence into how customers are operating, which is a good starting point from which to think about serving them better and collaborating more with customers.

“The Gartner Top 25 offers chemicals marketing insight and intelligence into how customers are operating.”

The forces that have driven these companies to apply certain supply chain practices are now working their way back in the value chain, so that even energy companies are now adopting supply chain approaches as opposed to functional approaches to operations.

Lord said it “is also worth noting that for the first time four chemical companies achieved the top 50 ranking, and two in are the top 30. Chemical companies are rising up the list, and may soon break into the top 25. But I suggest that here is still much to be learned by looking at supply chain excellence through the lens of those in the top 25.”

Lord said EPCA’s new supply chain report was “very impressive and comprehensive.” Among his initial thoughts, the Gartner research director said he felt that complexity is a design choice involving conscious trade-offs, that uncertainty is inherent in demand yet requires decision-making, and that what makes chemical supply chains unique is their constraints, which include regulations and sustainability objectives. He also said he saw a need to fully integrate manufacturing into the supply chain.

Overall, Lord concluded that “there are many good things in the report. It highlights joint value as the basis and the goal of collaboration, and shows how the push for sustainability is catalysing efforts towards innovation.” However, he suggested an “open task is to quantify relative value and feasibility of technical innovations.” Lord also welcomed the use of graphics and models to illustrate the diversity and constrained nature of supply chains, which can be difficult to describe in words. One area Lord felt the report had not addressed sufficiently was supply chain leadership. He suggested success in achieving supply chain excellence and sustainability is 60% leadership and management, 30% best practice, and 10% technology.

“Success in achieving supply chain excellence and sustainability is 60% leadership and management, 30% best practice, and 10% technology.”

Drawing his comments towards a close, Lord said supply chain excellence in the 21st century is about “balancing operational excellence with innovation excellence in support of business growth. The solution will be different if you are supporting a specialty chemical or advanced materials business as opposed to an upstream business, such as petrochemicals or commodities. The key is to understand where you are starting from.”

Lord concluded by offering five key takeaways. First, supply chain excellence is a business strategy that maximises value. Second, business alignment and flawless execution earn a seat at the strategy table. Third, leaders need to invest in talent, technology and process management capabilities to achieve supply chain excellence. Fourth, supply chain constraints and

options require optimization decisions. Fifth, decision management requires governance and analytical support.

“Leaders need to invest in talent, technology and process management capabilities to achieve supply chain excellence.”





PANEL DISCUSSION

Opening the panel discussion, session moderator Nadine Dereza welcomed and introduced the four additional panellists who joined keynote speaker, Paul Lord. She asked them to briefly describe their roles and to offer overall impressions on the EPCA's new supply chain report.

Sergio Barbarino, research fellow R&D supply chain innovation, Procter & Gamble Co.

Trained in chemical engineering, Barbarino said he had spent 15 years developing processes for products before switching his focus to the supply chain. In his view, “end-to-end, the supply chain is a treasure trove of opportunities for creating value.” By way of illustration, he noted that while Procter & Gamble ranks 6th in the Gartner Supply Chain Top 25, it only achieved 50% of the score achieved by the top-ranked company. “There are enormous opportunities to add value by making improvements to the supply chain,” he added. Commenting on the report, Barbarino said he liked the fact that it mentioned collaboration 263 times. Collaboration, he argued, is fundamental and, while recognising legal issues relating to competition, can deliver significant cost benefits.

“While Procter & Gamble ranks 6th in the Gartner Supply Chain Top 25, it only achieved 50% of the score achieved by the top-ranked company.”

Sergio Barbarino

Peter Holicki: Global Vice President Operations Ethylene Envelope, Vice President Operations Europe, Middle East, Africa, Dow Europe.

As a vice president of EPCA, Holicki joked that when he found time he also worked for Dow Chemicals. He said his role encompassed manufacturing, supply chain and logistics, and environment, health and safety. Admitting to have read the new EPCA report three times, Holicki said it is really helping him to go back into his organization and probe into how his teams are doing and how far advanced Dow is in supply chain and logistics. In his view, “the report’s case studies are very insightful and indicate opportunities. In Europe, we are under siege from an economic perspective and need to take action to increase efficiency. The EPCA report shows us ways we can do that.”

“In Europe, we are under siege from an economic perspective and need to take action to increase efficiency. The EPCA report shows us ways we can do that.”

Peter Holicki

Andrew Jackson, President & CEO, Agility Chemicals.

Recently relocated to Singapore, Andrew Jackson said his company, part of the Agility Group, is a global logistics provider offering both asset- and non-asset-based solutions to the chemicals industry. With a background in chemicals, Jackson said his “move to the dark side” into logistics service provision and moving to Asia has

given him new insights into the supply chain. He praised the new EPCA supply chain report as “an excellent and exceptional piece of work,” picking out the section on sustainability and the overall emphasis on the benefits of and opportunities for collaboration. “I decided to look in the dictionary to see what ‘collaboration’ actually means and found several definitions. The first was ‘a traitorous co-operation with the enemy’. I’m sure we all have some contracts and relationships where that definition applies. But what I think it really means is that ‘collaboration is a co-operation agreement between two or more parties working towards a common goal’. He said this reflects the spirit engendered in the report and also represent a value beyond a simple win-win. But the key to deriving value from collaboration, Jackson insisted, is trust. “We have to trust one another, as an industry, cross-business, horizontally and vertically to get that value.”

“The key to deriving value from collaboration is trust.”

Andrew Jackson



Holger Hüppeler, representative of “Together for Sustainability”, chief procurement and logistics officer, Lanxess Deutschland GmbH.

A former Bayer employee, Holger Hüppeler said he had joined Lanxess nine years ago when it was spun-off. “Together for Sustainability,” he explained, is an initiative of six chemical companies including Bayer, BASF, Evonik, Henkel, Lanxess and Solvay, which have not only focused on developing sustainable products that are beneficial to the environment and are key to a sustainable business future, they have also all focused on sustainability in the supply chain. “In today’s world, with Global Compact, GRI, international labour laws, and *Responsible Care* initiatives,” Hüppeler added, “the supply chain is incredibly complex. Everyone has developed their own set of audits, questionnaires and so on. So what we are doing now is developing one set of assessments and one set of audits and everyone in the group will accept these from other members. By sharing, we are making it easier for ourselves and also for our suppliers. The idea is that in the long-run, we will develop higher and higher supply chain standards,

improving life and working conditions for the people at our suppliers and service providers, and avoiding the risks of an unsustainable supply chain.” The Lanxess executive said the project is currently being rolled out, and expects to have a seventh participant soon, with several others likely to join next year. “Our aim is that it will be for the chemical industry worldwide.”

““Together for Sustainability” is developing one set of assessments and one set of audits and everyone in the group will accept these from other members.”

Holger Hüppeler

Addressing the report, Hüppeler said it was very useful in his work everyday. “I regard supply chain as a success factor, and if I want to achieve long-term improvements, then I need new ideas. In the report, I found more than 30 examples of opportunities for improvement, which are really useful and inexpensive short-cuts.”

After these introductory comments, Nadine Dereza asked the panellists to give their thoughts about the state of the European industry.

Peter Holicki: “Europe’s in a difficult spot. We’re not blessed with advantaged feedstock, we have a derailed energy policy, an ageing population, and consumer uncertainty. We have overcapacity, and some of us have already taken action to take some plants out, but the gap to full capacity still exists, and some more consolidation will be necessary. But despite this gloomy side, we are still in the biggest end-consumer market in the world and there is still an opportunity to extract a lot of value. Those companies that will innovate and collaborate will get ahead, while others will be squeezed closer to the cliff. In Europe, we have a very good self-cleansing environment, and I feel positive about it. It will force us to get ahead, but it will be a rough ride. We shouldn’t just talk about money, either. Because when we do well, when we collaborate for those win-wins, we need to take some of that money and put it into *Responsible Care*. We have an obligation – as producers and service providers – to drive everything to zero when it comes to pollution, to incidences, to compliance notices. As producers, when we hand product over to service providers, we need to be confident about the quality of our product and the delivery.

“Those companies that will innovate and collaborate will get ahead.”

Peter Holicki

Andrew Jackson: Chemicals really meet the public and the customers when they are in the LSPs' hands. Working internationally means a very big challenge: regional standards can often be very different from the global standards of quality, performance and sustainability, and this difference can impact investment decisions on projects in developing economies. Sometimes, it can be very difficult to get the revenue and profit necessary to fund the investments to the standards and quality required for sustainability in a chemical enterprise. That's not just saying we need more margin. It's about having the conditions to invest to provide the quality of services our customers require.

Nadine Dereza then asked Sergio Barbarino, coming from a consumer products company, to offer his evaluation of the chemical industry's supply chain.

Sergio Barbarino: Honestly, it's not a matter of them or us. The overall organization of global logistics and transportation needs some serious rethinking. We are being challenged more and more by the fact there are 600 megacities, with 10 million people each, accounting for most of the population of the world. We need to figure out how we keep the flow of supplies separated, how we keep them moving, how we keep them safe, and get them delivered. When I graduated as a chemical engineer, supply chain was not a subject in universities. Now it is taught in universities, and we have a professional discipline, which is bringing in young people. But we have to tell them: don't assume that everything is good - challenge everything.

“The overall organization of global logistics and transportation needs some serious rethinking.”

Sergio Barbarino

Are sufficient resources being put into supply chain management, and is it still a “poor relation,” Nadine Dereza wondered.

Sergio Barbarino: “It's changing. In my company, the vice president in charge of supply chain operations is now sitting in the global leadership council – that means the board. In many companies, people are realising the need to give supply chain the same status as manufacturing”, he said. “For example, today in P&G we are spending more on supply chain than on manufacturing, and we have a research and innovation centre.”

Having heard a lot about the supply chain benefits of collaboration, Nadine Dereza then asked Holger Hüppeler to describe the progress made through “Together for Sustainability.”

Holger Hüppeler: Well, we're not alone. There are already 2000 partners working with the six member companies. In the one-year planning stage we invited 2000 companies to participate in the initial investment, to fill out the assessments enabling us to identify where those partners stand today. We already have 40 auditors from various companies who will conduct future audits. Also on the buying side, we'll be adding members. I mentioned one new member joining soon, and there are three candidates who will take our numbers to 10. It's not just Europe. This is about global consumers and producers. Most of the assessments I've talked about have been outside Europe. It will become something worldwide.

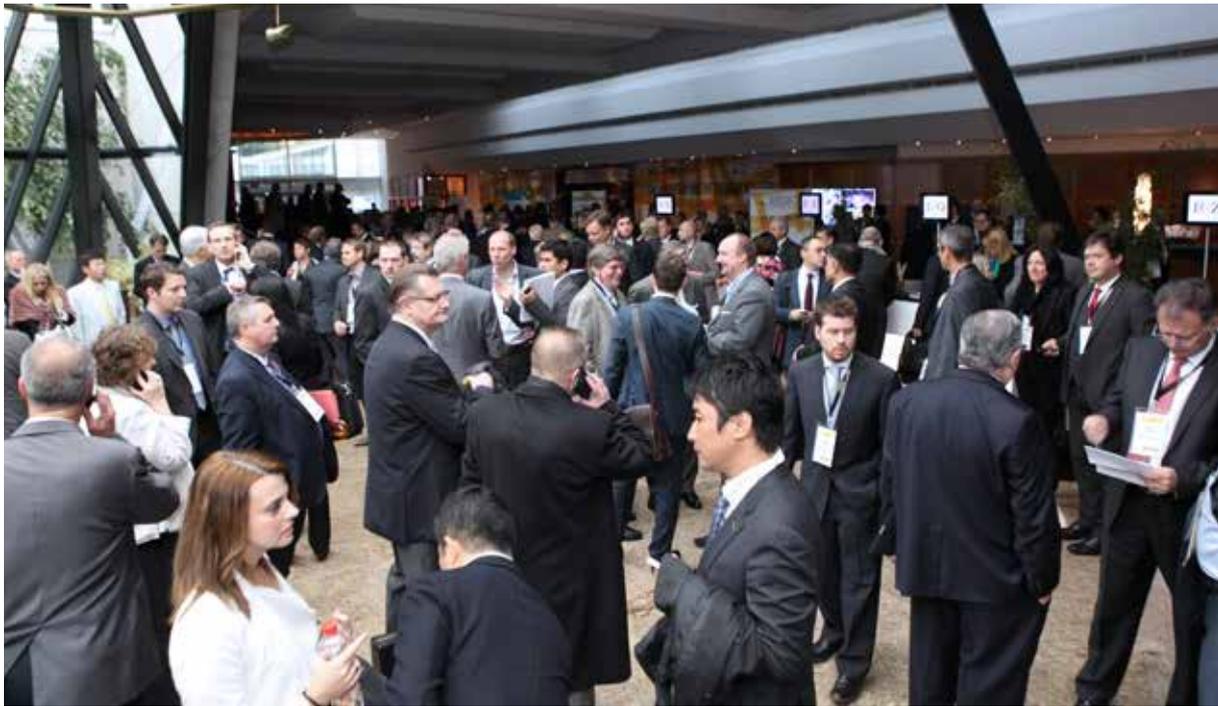
Turning to Paul Lord, Nadine Dereza asked why the chemical sector was not getting into the Gartner Supply Chain Top 25: “BASF's in the top 30, but what is it that's stopping more chemical companies getting higher ranking? Is it a lack of communication? Is this industry doing enough to explain its achievements?”

“What is it that's stopping more chemical companies getting higher ranking?”

Nadine Dereza

Paul Lord: “I can think of two reasons. First, the ranking index is composite of several factors. One of those is return on assets. That's a KPI that comes from financial statements. This is an asset-intensive industry. It owns a lot of assets. The chemical industry's return on assets tends to be about half that of those in the top 25. So while we're in 5%-7% range, the top 25 average is above 10%. There are lots of reasons around that. Some companies in the top 25 have outsourced manufacturing, for example. The other reason relates to peer ranking. This is a factor that reflects awareness of practices, and also awareness of the complexity of operations. I certainly think the chemical industry could create more awareness, but I also recognize that there are issues of confidentiality, which makes creating that awareness difficult.” Asked whether the industry should “get hung up” about being outside the top 25, Lord said: “No. But I also think the top 25 is a good reference point, and striving for improvement is important.”

Peter Holicki: I don't want to be critical. I think there are many of us who take the right long-range decisions. My own company is currently building a very large integrated manufacturing complex with Saudi Aramco in the Kingdom. It will be the biggest integrated site the industry has ever built in one go. We have a major investment ongoing on the US Gulf Coast, which will make us self-sufficient in building blocks, and will mean that our company will have to tackle logistics on a global scale because from those huge global platforms, we will be supplying customers around the globe. We have just opened a global logistics technology



centre in Belfast to move our supply chain even more from a regional focus to a global focus to capture opportunities like those two investments.”

Environment, health and safety is incredibly important, so how is that embedded in supply chain activities and operations, Nadine Dereza asked.

Peter Holicki: We always use the highest standards, whether they are US or local – provided they are the highest. What we also see with these large capacity resources coming along is that you can go more towards bulk shipment, or ship in bulk into the sales region and formulate and package product there. Now in the economic circumstances, sometimes we play games with one another, and look for win-lose situations. But in the end this does not work because what goes around comes around, the pressure for collaboration will intensify.

Taking up this last point, Nadine Dereza asked Andrew Jackson to talk more about collaboration and trust.

Andrew Jackson: Well, there are two issues here. One is about long-term thinking, I know from Agility working with them, Dow and Saudi Aramco in the Sadara joint venture are looking a long way out at developing a cohesive global supply chain, which I think is leading edge. We're quite privileged to be part of that as a service provider. In terms of trust, I think to make collaboration effectively we have to look at this issue of competition. If we're collaborating horizontally across the networks, so that LSPs are sharing assets and sharing products, we have to challenge ourselves very hard if we're really ready, because we're taking waste out of the supply chain, and increasing the efficiency of the overall system. However, if you look at that the individual manufacturers they need

to be competitive and to compete with one another, as do the LSPs. So we're all going to looking for a larger slice of the same pie. So whereas we want to see this sustainable collaboration, where do we find a competitive edge?

Holger Hüppeler: We started talking about shale gas and Asia increasing competition. For me, as a procurement person, that opens up new opportunities. There is a wide range of new ways to improve things. If you go to these new sites, you need to develop a new supply chain, which means finding new approved partners who you can work with from the start. So in a spirit of collaboration you can work together to find those new sourcing opportunities and to build a new sustainable supply chain.

Sergio Barbarino: “The fundamental point is to decide where is your sustainable competitive advantage? This is something you will need to protect and which may make collaboration a no-go. Not because of competition, but because this defines you as a company that is a leader in this or that product or service. The chemical industry has a long commitment to collaboration on safety, so that any incidents and accidents can be dealt with in the best possible way. But if you look at car manufacturers for example, 10 years ago, safety was a competitive advantage. So it's not a given where competitive advantage is located. So, with my company, we say we compete on the shelf, but how you get to the shelf should be up for collaboration.

“The fundamental point is to decide where is your sustainable competitive advantage?”

Sergio Barbarino

“Recently, I went to Brazil with the global distribution people, and we ran an experiment. We said, ‘Imagine you are a P&G customer, go out there, find the shops and try to find the products. It was not an easy exercise: it looked like a treasure hunt. There is a lot of work to be on the shelf to compete in the first place. And of course we want the best diapers, the best this, the best that. Now one area where we can all collaborate is innovation, and in research for logistics innovation. There has been very little done in the past, and there is a huge opportunity here. It is also possible within competition law to collaborate on research even when it involves competitors. A lot of industries collaborate at this level. So we have formed a new innovation platform advising the European Union on how to spend money in order to develop logistics innovation, and to find a space where we can collaborate.

“One area where we can all collaborate is innovation, and in research for logistics innovation.”

Nadine Dereza then asked Barbarino to comment on the issues of time and efficiency in the supply chain, especially those that are consumer-driven.

Sergio Barbarino: We now live in a world where people want to order today and get delivery tomorrow. But if

you look at the pattern of consumption, you can imagine there is good lead effect on most of our products. Now, the consumption of diapers is fairly constant and there are very few peaks and lows. The reason for the time lapses is because it is driven by accountancy. Nobody wants to keep the inventory and everyone is shifting it up to somebody else. My point is that the best place for inventory to be kept is next to the point of consumption: think toilet paper. But the problem is that the closer it is to the point of consumption the more expensive it is from an accountancy standpoint. We need to find a way to do it efficiently.

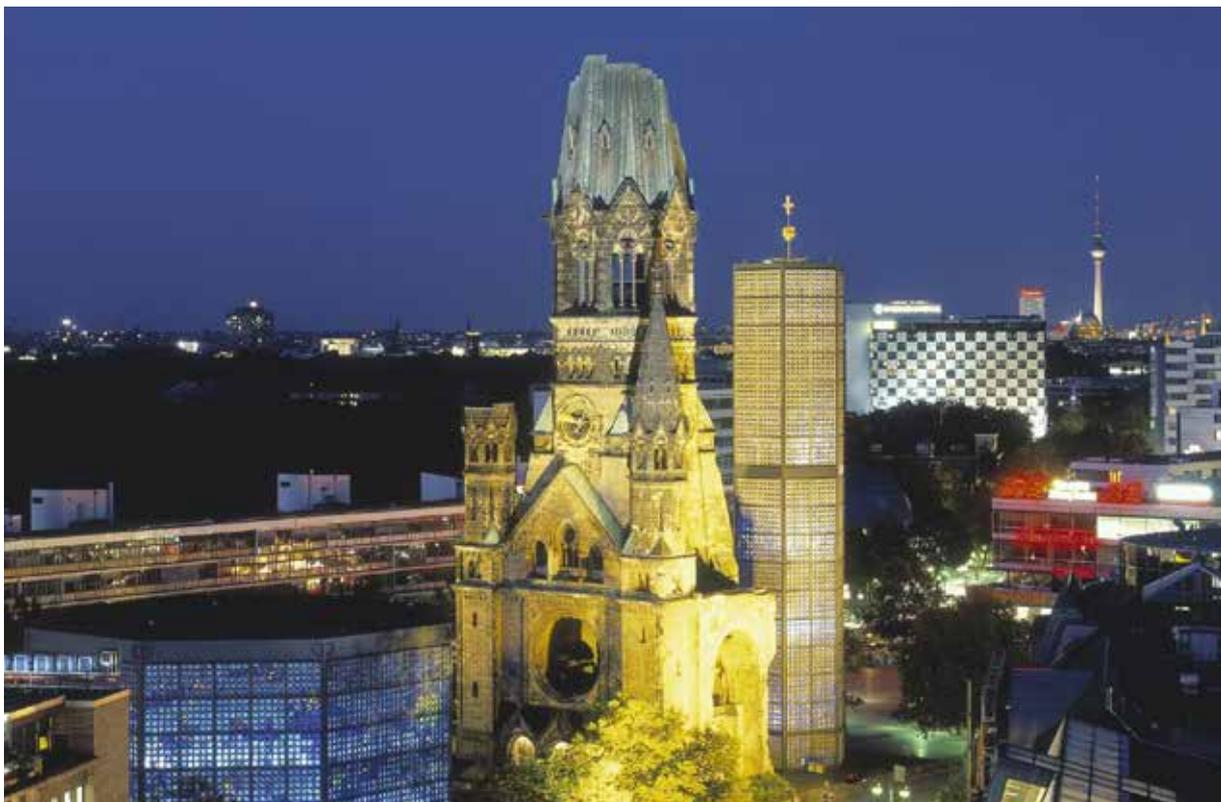
“My point is that the best place for inventory to be kept is next to the point of consumption.”

Sergio Barbarino

At this point, Nadine Dereza opened to floor to the audience for questions.

Participant's question: Is customer the enemy of profit? I'm from India, from the trading segment. Collaboration is there, but the customer wants the best product at the lowest cost.

Peter Holicki: “No! The customer is the source of profit and we need to innovate every day. I think the report is saying that if we keep doing things as we always have, we



will not solve our problems. So we have to innovate and do better everyday. But we should not blame the customers. However, there is a saying: We live for our customers, but we're not prepared to die for them."

Andrew Jackson: "I see where you are coming from. It's about investment in supply chain. A new supply chain head of an international company moving product into India said he was concerned about knowing what was going on in his supply chain because there was insufficient investment. His question was: How can we work together to ensure I get the standards I need to deliver the product to customers given what some customers are prepared to pay to get them there?"

Nadine Dereza: How do we work for the customer through the supply chain? Is there room for best practice case studies in the chemical industry on who is designing their supply chain to add value for customers?

Paul Lord: "An informed, educated customer is important. They need to understand the ramifications of what they are demanding and some of the limitations of wanting low-cost, fast service, etc. There are trade-offs that need to be made in designing the supply chain, which requires a conversation to understand the shaping of demand and the priorities."

Andrew Jackson: "It's not a case study, but we've been working on coordinating session between manufacturers and their customers, seeing how we act as a glue between them, and how we build a supply chain that pulls this all together."

Drawing the session to a close, Nadine Dereza asked panellists for their final thoughts.

Holger Huppeler: We would invite LSPs to come and give us recommendations about where we can do better. I don't just want to offer you business. I also want to learn from you. Our expertise is to make and sell chemicals. Their expertise is to help get product into and out of our plants.

Andrew Jackson: We must remember that it's people in the room who are doing business together. It's about people and trust. Sometimes the enthusiasm, and the essential spirit of relationships gets lost in the minutiae and the lawyers' demands. But I would also caution people to be careful to not confuse collaboration, which is working toward a common value, with cooperation.

Peter Holicki: I like the conversation moving towards the customer. 30 years ago, this industry started to farm out site logistics operations, warehousing, etc. and we started dealing with LSPs in a more profound way, and our customers are doing the same. We now need to bridge to the customer with our LSPs focus and optimize all the way down the supply chain.

Sergio Barbarino: We need collaboration to move from one status to a new one. There is a saying: Money allows

you to do business with people that you don't like. But we are in a crisis, and we do need to move to a better equilibrium and that's where collaboration is helpful. There is plenty of collaboration coming from the market. When I take a flight and pay €150, I don't need to call the other 150 passengers to agree we're going to fly that day. It's the same with a container ship. There are business models that allow you to collaborate without even talking to one another. But to get there requires a breakthrough. The container was the miracle that allows you to get 25 tons of goods out of China into Europe very cheaply. But it took a long time to get it started. We need to invest and to collaborate for innovation.

"We need to invest and to collaborate for innovation."
Sergio Barbarino

Paul Lord: I want to finish on long-term thinking. For the supply chain, it is the patience and willingness to invest in talent and operational skills as well as the leadership to influence, educate and collaborate. And good collaboration begins at home.

"For the supply chain, long term thinking is the patience and willingness to invest in talent and operational skills as well as the leadership to influence, educate and collaborate. And good collaboration begins at home."
Paul Lord

Closing the session, Raf Bemelmans said two things: Read the report and feed your comments back to us because they will inform our agenda for the next couple of years (admin@epca.eu).



TUESDAY 8 OCTOBER 2013

CLOSING SESSION



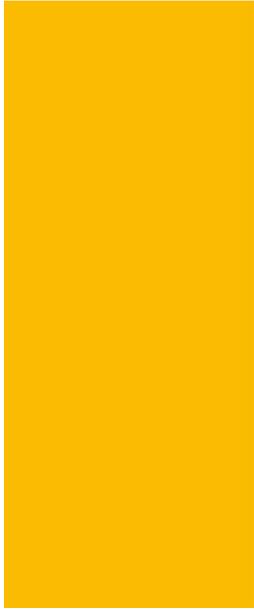
President Bill Clinton, 42nd President of the United States & Founder of the Clinton Foundation

During his keynote address, President Clinton stated that “Our world is awash in all kinds of problems...But I think there is reason for hope.” His main message was that despite an on-going struggle between the forces that bring

people and the world together and those that seek to drive them apart, there are many positive and successful examples of creative cooperation often encouraged by global leaders.







ABOUT EPCA

The European Petrochemical Association (EPCA) is a Brussels-based chemical industry-led international non-profit association.

EPCA is

- A huge **global network** connecting member companies and stakeholders
- A quality platform in Europe **to meet, communicate, exchange information** and **transfer of learning** that **opens debate to the long term sustainable development of the chemical industry** and **contributes to the improvement of the public image of the global chemical business community**
- A think tank that initiates, facilitates, finances and

promotes ideas and projects of interest to the chemical industry, its business partners and service providers. Educational initiatives promoting STEM education in schools (science, technology, engineering and mathematics) and the chemical industry as a good industry to work for as well as chemical supply chain and logistics studies and workshops are part of such projects

- More than 700 member companies (producers, service providers, suppliers, customers).

Given its large and global membership base, EPCA has never been, nor intended to be, a lobbying organization. As such EPCA does not have any international or national federations or associations in its membership.

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