PIGMENT PRODUCERS

Help Global Paint Producers Meet Local Needs

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Pigments are crucial components of paint formulations. As such, their availability, quality, consistency, and regulatory compliance have a significant impact on the ability of coating formulators to develop and produce their desired products. As paint manufacturers respond to growing competition from emerging regions, higher raw material and energy costs, and slowing economies in mature markets with increased consolidation and globalization, their relationships with pigment producers have changed accordingly.

Leading pigment suppliers talked with *CoatingsTech* about how globalization and consolidation of the coatings customer base are affecting their activities. Recognized industry consultants weighed in with their thoughts, too.

Participants in this roundtable discussion include the following: Thierry Chevrier, director of coating and plastic chemicals for BASF Performance Chemicals; Bernadette Corujo, marketing manager, Paints & Coatings for Ciba Corporation; Norbert Merklein, head of global marketing for the Coatings Industry, Pigments & Additives Division of Clariant International/Switzerland; Kenneth Loye, market development manager with Ferro Corporation Performance Pigments and Colors Group; Don McBride, COO of Heucotech Ltd. (a Heubach company); Barb Parker, color designer for JDSU Flex Products; Carlos Estrada, marketing manager for Colorants in the Functional Chemicals business unit of LANXESS; Peter Kiemle, global product manager for the LANXESS Inorganic Pigments business; Tony Reed, director of global automotive marketing for Silberline; Pete Stone, market development manager for General Industrial products with Silberline; and Peter Carey-Yard, marketing director, Coatings, Performance Pigments, Sun Chemical.

The consultants providing comments represent The ChemQuest

Group, Inc., a market research firm based in Cincinnati, OH. They include Vice Presidents Rick Jones and George Pilcher and Director Sue Anderson.

JCT: ***What are the similarities in pigment use for paints and coatings across the different regions of the world: U.S., Western Europe, CEE countries, Asia, and Latin America? Why do these similarities exist regardless of location?***

Rick Jones, ChemQuest: As paint companies become increasingly global in nature, we expect to see some effort by pigment manufacturers to offer common products to customers in different regions of the world. Pigment suppliers simply can't afford to continue offering numerous variations of a large number of different pigments. In Europe in particular, the REACH legislation will also likely drive pigment suppliers to reduce their portfolios due to the high cost of registering individual products.

Peter Carey-Yard, Sun Chemical: When making the choice of a pigment for a coatings application, a paint maker considers cost of use, performance, environmental legislation, and availability. The pigment's level of performance or fitness for use has no absolute definition and can have different interpretations related to market or regional needs. Today, the largest coating producers are global players, and the choices they make for their coatings systems tend to get established as the norms in the regions in which they operate. This means that as the market further matures, regional differences will tend to disappear.

Thierry Chevrier, BASF: Regardless of region, many paint manufacturers and their customers expect value, quality, service, and global availability. A major factor driving growth in pigment demand is the increase in construction of new office buildings, factories, roadways, and infrastructure in many different parts of the world– along with an accompanying demand for high performance pigment technology to extend the life of paint and coatings. With increasing globalization of many products, including paint and coatings, there is a need for technology that can be applied across regions.

Norbert Merklein, Clariant: The globalization in the industry and the global activities of key players in the market have created many similarities in the use and application of pigments in recent years. On the other hand, there are still technological differences across regions in specific areas, which also influence the formulations and the pigment selection. The targeted quality level also plays an important role, which can equally vary from region to region.

Don McBride, Heucotech: Overall, the growing organic and inorganic colored pigment demand worldwide can be judged similarly even though the extent of the growth rate is differing in certain regions and applications. Particularly, the increasing use of inorganic and organic colored pigments is seen regardless of locations as opposed to black and white options (while color trends vary greatly by region).

Pete Stone, Silberline: Similarities exist due to the globalization of business and the subsequent spread of pigment technology platforms. Industrial coating formulations are undergoing significant changes, much of which is driven by environmental regulations. A lot of R&D efforts are directed at developing special effect pigments that will exhibit the desired performance characteristics and functionality in these new coatings. This innovative technology is spreading rapidly around the world.

Kenneth Love, Ferro: High performance inorganic pigments, typically used in OEM products such as exterior building products, have been used for many years in North America, South America, and Europe. They are now finding utility in the Asia Pacific region since much of the manufacturing being done there is imported back to the U.S or Europe as finished goods. Therefore, I would say we are entering a world market scenario.

JCT: ***What are key differences and what dictates them?***

George Pilcher, ChemQuest: Certain standard specifications apply in each region that lead to requirements for pigments that differ, to accommodate regional norms and expectations. With time and increasing globalization, these regional preferences will be less evident—but there will always be a need for certain shades of phthalocyanine blue to make the acres and acres of Ocean Blue color that is so beloved in China!

Sue Anderson, ChemQuest: In the future there will definitely be more common products throughout the world, but currently global paint companies still must meet the needs of local and regional customers, and those needs vary significantly. Therefore, pigment suppliers must be able to provide products that help coatings producers make these local formulations. As a result, while the pigment producers are also becoming more global, they still rely on regional management to a large extent. Many are even forming joint ventures with local manufacturers in different regions in order to be able to provide the products desired in those areas.

Carlos Estrada, LANXESS: In Europe, we have been observing a marked trend towards ecologically oriented legislation for a number of

years. Many manufacturers have already adapted to this and taken the necessary action so that REACH—just like the emissions legislation (VOC) before it—will soon be taken for granted. For our customers, it is important *what* a product contains, but it is often even more important what it does *not* contain. In the business of organic pigments for the European coatings industry, the focus is thus on ecological aspects.

Peter Kiemle, LANXESS: Inorganic pigments are, per se, ecologically unproblematical. With these products, the emphasis for the European and North American industry is on quality, innovation, and reliability of supply. Pigment suppliers from the Far East offer alternatives but they cannot match the high quality of our pigments. We are continuously working on improving our processes and products to further extend our technological lead.

Bernadette Corujo, Ciba: The differences in pigment use are mainly related to the varying quality requirements of the application rather than location. Quality requirements are often lower in developing countries such as India or China compared to, for example, Japan or Western Europe. However, the increasing globalization of the paint and coatings industry is bringing an alignment of quality requirements for many applications with regard to pigment usage.

In the U.S., color trends reflect both the economic climate and the cultural diversity of the population. For example, with a growing Hispanic population, yellows, oranges, and turquoise have gained popularity. With the current concern over the economic conditions, reassuring colors like blues and greens offer comfort. Orange remains popular due to its warmth, but also because it symbolizes strength and endurance. And with less disposable income, consumers can treat themselves to a glamorous look in a less than glamorous economy with increasingly popular bronze, copper, and chrome effects.

Coatings manufacturers do an excellent job of understanding their customers' needs, and design their color offerings to appeal to different end user segments. For example, 2008 saw an appeal to both the environmentally conscientious consumer as well as the casually elegant consumer. This resulted in both environmentally friendly and special effect pigments gaining increased market acceptance.

Barb Parker, IDSH Flex Products: While we are seeing some global branding, color preferences in large part are driven by the local culture. In India we are seeing a growing interest in pinks and purples, while in mature Asian markets the preference remains for neutral tones, particularly black and white. In Europe, there is a new attraction to white pearl, which has been popular in the U.S. for about 10 years. And in the U.S., surprisingly, orange remains a frequent choice for cars. At the same time, with greater amounts of chrome finding its way back on vehicles, darker shades of brown are becoming more common there.

In electronics, black remains the choice for professionals, while color continues to be a real differentiator for products being marketed to the consumer.

I also believe that light plays a role in determining color preferences. For example, in Latin America where there is warm golden sunlight, brighter colors are appreciated. In contrast, in Europe where there is a colder northern light, neutral and silver colors are more common.

Tony Reed, Silberline: In addition to differences in color preferences being driven by local trends, resulting in the color palettes of such regions as India and China being distinct from Europe and the Americas, we also come across a local bias for local supply of materials. Technology differences, too, are often driven by local laws and the degree of sensitivity around the environment and environmental protection. For example, the percent of waterborne coatings manufactured and applied in Europe is greater than that in the U.S. and even more so as compared to developing nations such as India and China; although this is changing.

Kenneth Laye, Ferro: Differences can be related to the materials that need to be coated. The North American market uses different building materials than most of the rest of the world, including vinyl siding, exterior wood siding board, etc. In contrast, in Asia Pacific, concretious products such as stuccos are more widely used.

Peter Carey-Yard, Sun Chemical: Local market decisions, once made, can result in regional differences that persist for many years as the cost of changing can be prohibitive. A very good example of this is the choice of pigments used for architectural universal colorants. In Europe, the red generally used is CI Red 112; however, Red 188 is the preferred pigment in the United States. For blue, the green shade beta crystal form of phthalocyanine (Pigment Blue 15.3) is the choice in Europe, whereas the United States prefers the red shade alpha crystal type (Pigment Blue 15.2). Another example is the United States' automotive paint industry preference for dichloro quinacridone Red 202, whereas Europe uses mostly dimethyl quinacridone Red 122.

Thierry Chevrier, BASF: Pigment use in paints and coatings depends on many factors and can vary country by country, or even within a region or country. For example, lightfastness and heat management may be critical requirements in high-sun areas in the southeastern U.S. such as Florida, but significantly less critical in the Pacific Northwest. Regional color preferences would also result in differences in pigmentation used in paint and coatings.

2007 Global Market for Pigments Used in Paints and Coatings

	NA/SA	EU	Asia	Total	Vol. Var % '07 vs '06	Total MM $/yr	$ Var % '07 vs '06
	(M MT/yr)						
Whites	826	753	583	2162	0.70%	4705	1.80%
Blacks	7	4	4	15	N/C	44	8%
Colored inorganics (includes specialty effect pigments)	118	162	69	349	1.20%	976	5%
Colored organics	30	29	23	82	2.50%	3835	6%
Total	981	948	679	2608	1%	9560	4%

Source: The ChemQuest Group, Inc.
Note: Some companies may have achieved price increases in 2007 but others not until 2008, making it difficult to get an accurate total in terms of value.

JCT: ***What are pigment producers doing to manage the globalization/consolidation that is taking place within the industry?***

George Pilcher, ChemQuest: Consolidation among formulators has resulted in fewer paint companies that have, in turn, significantly more leverage when it comes to purchasing pigments. They are now setting longer contracts, sometimes two or three years in length. This situation leaves pigment suppliers fighting over these contracts and could possibly lead to consolidation amongst pigment producers as well. The very different nature of the chemistry of organic, inorganic, and special effect pigments and the vast differences in technology used to produce them may, however, make it difficult for consolidation to provide true synergies.

Norbert Merklein, Clariant: A proper key account management is the most important tool to manage the globalization and consolidation in the industry. This requires an individual set-up for each customer to meet his needs and fit his organizational structures. It also requires people in marketing and sales who think and act globally. To develop such a team around the world is a big challenge. Global support to customers, technically and commercially, is key, and not only for the top 10 global players. Many mid-sized paint companies have also gone global, or at least have expanded into other regions, so this needs to be managed with an international organization and a global spirit.

Peter Carey-Yard, Sun Chemical: Globalization has meant that the manufacturer of many goods has moved to the lower cost regions, particularly China. The result is that pigment demand for the coatings for manufactured goods is relatively flat in our traditional markets. Additionally, these emerging markets have rapidly growing per capita incomes, meaning that we must be there to serve those markets as well.

Sun Chemical needs to both support our global customers who already have a presence in these markets and develop strong relationships with the fast growing local producers. Sun Chemical is strengthening its presence in all these markets by expanding the local manufacturing of pigments and allocating more resources to sales, marketing, and research and development.

Kenneth Love, Ferro: Most pigment manufacturers have developed a global strategy with a local strategy blend. In other words, they act locally while thinking globally so that they can respond to whatever markets come to bear. We have seen that many North American-based companies have expanded to the far reaches of the world to participate in new markets. Manufacturers also demand that products made for their U.S. divisions be available worldwide so they can make product locally and supply globally.

Don McBride, Heucotech: Heubach currently manufactures on three continents and is present in some capacity in all, with either sales offices, technical service stations, or agents/distributors. Our product portfolio is growing every year to enable us to provide various pigment technologies and performance profiles all over the world for phthalocyanines, indanthrones, azos, isoindolines, naphthols, quinacridones, DPP's, titanates, copper spinels, modified ortho phosphates, modified polyphosphates, and zinc salts. Further, more new innovative technologies such as IR-reflecting pigments and environmentally friendly colored hybrid pigments as alternatives to cadmium- and chromate-containing pigments are of interest in most regions of the world.

Bernadette Corujo, Ciba: To assist customers in "taking color to new destinations," Ciba focuses strongly on developing novel shades with outstanding properties, such as its new-generation diketo-pyrrole-pyrrole pigment, Ciba® IRGAZIN® DPP

Cosmoray™ Orange, a pure orange pigment with outstanding durability and high saturation.

To help paint companies and their customers achieve unique results that allow them to stand out in the market, Ciba develops new ways of enhancing appeal and creating new stylings. Ciba XYMARA™ effects include pearlescent, luminescent, mirror-like or matt- metallic, and transparent. Ciba's effect pigments can be used together with conventional products to create individual new styles and designs.

New technologies that improve processes and help promote environmental sustainability include Ciba's Novel Encapsulated Additive Technology (NEAT) for coatings stabilization, which for the first time enables the equivalent level of protection in waterborne coatings to that attained with high-performance stabilizers in solventborne systems.

Peter Kiemle, LANXESS: LANXESS' Paint Competence Center offers technical support for our customers in the surface coatings industry all over the world. The team also works closely together with our R&D unit and our customers in the coatings industry on the development of new products.

As far as product supply is concerned, LANXESS has a very tight global network of production sites around the world, as well as warehouses and distribution partners. Particularly in export markets, this creates additional synergies within the network to the benefit of our customers. Alongside pigments and colorants, for instance, other products such as preservatives and specialty chemicals travel through the same distribution channels to our customers in the coatings industry.

Thierry Chevrier, BASF: BASF is focused on gaining a better understanding of the needs of brand owners, in order to be more responsive to these needs. This allows BASF to respond faster to changes in the marketplace. We also have and will continue to maintain a global presence. Our objective is to produce products that bring the best value to our customers. As a result, even the globalization and consolidation dynamics do not affect our approach to the industry.

Barb Parker, JDSU Flex Products: The selling process is very consultative for special effect pigments. We do a lot of prototyping for our customers and have established numerous partnerships with them in order to provide formulation development support. Paint companies are struggling with fewer people doing more work, and they are relying on suppliers like Flex Products to provide assistance. By doing so, pigment producers can differentiate themselves from competitors.

Tony Reed, Silberline: We are expanding our global reach. Today we have manufacturing, research, and technology facilities in North America, Europe, and Singapore. We have sales operations in Mexico, Brazil, and Shanghai and we are in the process of establishing operations in India. We embrace an holistic global view of our customers with operations in multiple regions of the world and who expect us to supply our technologies to their various locations efficiently and effectively. Of course, we also have a very aggressive program around exploring and developing new technologies.

We also believe that identifying global key individuals at larger customers is critical for establishing productive relationships.

JCT: ***What do you see as the key factors for success in the more consolidated and globalized paint and coatings industry that exists today?***

Sue Anderson, ChemQuest: A key factor for success is the careful selection of distributors in regions where pigment producers do not have direct sales forces. Having the right face in front of the customer is crucial. In addition, a distributor with the right set of contacts who speaks the language, understands the local culture, and also provides active support can make a huge impact on the success of a pigment supplier entering a new region. We are seeing special effect pigment manufacturers using this approach in Eastern Europe and North Africa, for example.

Tony Reed, Silberline: Having global operations with the ability to promote our technologies and supply our products to those regions of the world that need them is most important. Combining this approach with a global pricing strategy based on local market conditions and an ability to respond quickly on a global scale provides further assurance of success.

Don McBride, Heucotech: As mentioned earlier, production sites located in the key markets along with technical and logistical global service networks are necessary to meet specific regional demands. A high level of innovation and commitment to providing value-added products while meeting increasing environmental awareness, product safety requirements, servicing profitable niche markets, and constantly increasing production efficiency and productivity to compensate for escalating raw material costs are basic prerequisites in the more consolidated and globalized paint and coatings industry. Sustainable growth is requiring more effort in the area of backward integration.

Thierry Chevrier, BASF: Energy conservation, environmentally friendly products, sustainability, and driving value are key factors across many industries.

Bernadette Corujo, Ciba: What Ciba has been focusing on is adding value to our customers' businesses by being close to them in the market, i.e., offering local support; providing them with innovative products that help them to achieve novel

effects so they can stand out in the market; helping them optimize their processes so they can improve production efficiency and ultimately save costs; and ensuring consistency in our products and services worldwide so that global businesses achieve the same results everywhere.

Peter Carey-Yard, Sun Chemical: Sun Chemical works to find solutions that are tailored to meet our individual customer needs. This means our understanding of the applications we supply must be first class. Only by developing strong relationships with our customers can we appreciate and fulfill their needs. We recognize the markets we serve want color and effects. For this reason we have expanded our portfolio of products to include mica and aluminum effect pigments. R&D effort in this new area for Sun Chemical is already developing new and exciting pigments that will be launched soon to the coatings market.

Peter Kiemle, LANXESS: The key success factors are consistent high quality and reliable supply, but innovation, close technical cooperation, and reasonable pricing are also very important. Our research team works closely with our production and engineering units to devise intelligent ways to improve yields, reduce raw material and energy consumption, and achieve even more consistent quality. These measures and the technical expertise we have acquired over many decades, plus the close contact we have forged with our global customers, form a strong basis that equips us very well indeed to meet the stringent demands of the surface coatings industry.

Photo courtesy of Ciba Corp.

The takeover of a pigment production line in Jinshan near Shanghai will strengthen the position of the Inorganic Pigments business unit on the global market. With this acquisition, LANXESS has also been able to secure raw material supplies for its pigment mixing unit in Shanghai and will therefore be completely independent of local external suppliers.

Norbert Merklein, Clariant: Key success factors are key account management, the right set-up of international service tailored around individual customer needs, technical cooperation and innovation discussions, and, of course, the right product portfolio, which is available on all continents. This requires consistent global portfolio management. Clariant is addressing all these issues extensively, and has globalized its activities in all these areas.

JCT: ***How are these factors different from 10 years ago? Do you see them changing within the next 10 years? If so how?***

George Pilcher, ChemQuest: The biggest change from 10 years ago is that so much production has moved to Asia. Over the next 5–10 years, I see quality being significantly improved by low cost producers.

Rick Jones, ChemQuest: As part of the demand for increased performance, paint companies will also be placing a lot of pressure on pigment manufacturers to improve the consistency of their products. Raw material inconsistency is a source of huge costs for the formulator, and these costs are not often recoverable. Pigment dispersions are receiving growing attention because they provide an excellent solution. They may cost paint producers more up front, but overall costs savings are manifested through not only the improved consistency, but also the reduced analytical requirements and other costs associated with having to grind and disperse the pigments themselves which often leads to batch-to-batch inconsistencies.

Sue Anderson, ChemQuest: Tightening of environmental regulations has been a theme for the past 10 years that will continue for the next 10 as well. The general "green" movement that has been taking place in mature markets is also beginning to spill over into developing regions.

Barb Parker, JDSU Flex Products: In the future, we will see much more reliance on virtual capabilities. Rendering and replication of color will be done in a virtual way. The Internet will play an ever-increasing role, too, and as a result consumers will continue to become increasingly more educated and thus more demanding, both from a performance perspective and with respect to environmental stewardship.

Kenneth Love, Ferro: Right now we are beginning to see the trend to

ward internal consumption for developing markets that were only yesterday mainly concerned with exportation of goods from their regions. As these regions become consumers, they are beginning to purchase goods at higher and higher levels. Industry must be well entrenched in these areas to participate in this accelerating trend if they are going to survive.

Pete Stone, Silberline: I expect that the next 10 years will see significant and more rapid change than we have seen in the last 10 years. There were very few special effect pigment companies 10 years ago, and in the next 10 years we will see many more than we have today. In such a competitive environment, successful companies will be the ones able to develop technologies that impart desired aesthetics and performance characteristics that are significantly evolved from the standard products that are on the market.

Tony Reed, Silberline: In addition, the product development cycle will continue to become shorter. Greater global competition and, specifically, the emergence of pigment manufacturers in developing regions have resulted in new technology platform development cycles being shortened by many global manufacturers in order to always be ahead of trends in the market place.

Norbert Merklein, Clariant: Indeed, the speed of change and the speed of globalization have increased significantly over the last 10 years, and customers react much quicker in their respective markets. Therefore, as a supplier, we need to follow these trends and stay in very close contact with our customers, ensuring the best possible communication with the market, and with our own organization.

Globalization and the addition of upcoming new producers in Asia have led to increasing competition and, hence, a demand for ever more innovative products and efficiencies. Increasing raw material prices add further pressure to this situation. Globalization has also led to a demand for greater product consistency and availability worldwide. With this trend to continue, one can expect consolidation in the industry.

Peter Carey-Yard, Sun Chemical: For the NAFTA and European pigment manufacturers that supply the coatings industry, competition from new producers in China and India has continuously squeezed profits. In this period, the capacity to supply pigments outstripped the demand by very significant percentages, first for classical pigments and later for some high performance categories. The result has been that many pigment suppliers are no longer with us, and those that still are manufacture pigments in these new markets.

Over the next 10 years the high per capita growth of the emerging markets will result in supply and demand becoming balanced. For the emerging markets, stricter environmental controls and fiscal considerations will result in the consolidation of many local pigment manufacturers there. The producers that remain will be those that can supply the global market with needs that are more homogenized.

We expect that Sun Chemical's global customers will continue to expand their business in these new markets, and we also expect the more successful companies born from these regions to become major global players.

Thierry Chevrier, BASF: The need for value and innovation has been relatively constant. Ten years ago innovation meant providing the best value, 20 years ago it meant providing the best product, and today it providing being the best product at the best value. In the future, the environmental focus will increase, and value and environmental stewardship will go hand-in-hand.

Peter Kiemle, LANXESS: Consistent high quality, reliable supply, innovation, close technical cooperation, and reasonable pricing are just as important now as they were before in the paint and coatings industry. We do not expect anything to change in that respect in the coming years. CT