Trendsetting paint technologies

RELEST®: Powerful industrial coatings brand

Global color trends
Dear readers,

We are celebrating an anniversary. Twenty-five years ago, BASF developed the first waterborne automotive OEM coating. Back then, the idea was met with a great deal of skepticism. These days, however, this technology is standard, and has become a unique success story. Around 50 percent of the coatings used to paint car bodies throughout the world are waterborne, and the trend is on the rise.

Today, waterborne coatings continue to be an important innovation that we are constantly improving. They are more economically efficient and environmentally friendly than solventborne coatings, which helps your customers to be more successful. This is what we strive to achieve in our work. To meet this goal, all over the world BASF’s competent team is hard at work.

The success story of our products, which are simultaneously high-performance and eco-efficient, continues. The most recent example is the cooperation between smart and BASF for producing the “smart forvision,” the new concept car for urban mobility. Numerous technological innovations created by BASF make the car lighter and more economical. On top of that, its finish is a real plus, both in terms of functionality and appearance.

See for yourself!

Yours sincerely,

Dr. Alexander Haunschild
Head of BASF Coatings’ Automotive OEM Coatings Solutions Europe
The future belongs to electromobility

At the 2011 International Motor Show (IAA), Daimler and BASF jointly presented the smart forvision concept vehicle. The energy-efficient electric car made a splash with its trendsetting paint technologies.
With its excellent scratch resistance, efficient temperature management and luxurious appearance, BASF’s intelligent paint systems make the concept car produced by Daimler and BASF a stylish technology trendsetter.

The concept car commands attention with its white finish; the waterborne special-effect coating accentuates the smart forvision’s unique design with its brilliant and distinguished appearance. The integrated glass flakes create a gleaming look. An important side effect: White colors reflect light and heat rays from sun particularly well, supporting the extensive temperature management system of the smart forvision. But even surfaces coated with dark colors stay much cooler thanks to special color pigments – “Cool Pigments” – from BASF. They ensure that heat radiation is reflected rather than absorbed. This leads to a temperature reduction of up to 20 degrees Celsius on the paint surface and of up to approximately 4 degrees in the vehicle interior. As a result, energy for air conditioning can be saved because the passenger compartment does not heat up as much.

**Liquid Metal special-effect paint**
BASF’s patented Liquid Metal paint gives the tridion safety passenger compartment a futuristic appearance. The copper-colored Liquid Metal paint uses aluminum flakes to produce a reflective surface that creates a transition from light to dark, depending on the viewing angle. For the latest generation of Liquid Metal paints, BASF uses physical vapor deposited aluminum (PVDA) pigments. To produce these, aluminum is steamed onto a paint-coated foil. Afterwards, the resulting aluminum film is peeled off and ground into the desired flake size. The grittiness of the paint is significantly reduced; at the same time, the thin aluminum flakes are more mobile in the wet film and fall into a position parallel to the substrate surface more easily. The result is that the paint film has a more uniform appearance and seems to stretch across the car’s body like a metallic skin. The surfaces reflect the light with greater intensity and take on additional gloss. The metallic look created has an intensity that could not previously be achieved with conventional metallic paints.

**iGloss® provides the glossy finish**
Both the panels and the cell of the smart forvision are additionally painted with a finishing layer of the extremely scratch-resistant iGloss® clearcoat. Its high
scratch resistance is derived from a special lattice structure, which combines the advantages of inorganic “hard” materials with those of organic “soft” materials. Combining the two ensures long-lasting gloss and greater durability. The technology does not require any significant changes in the application process.

**Clearcoat system with UV absorber**

The hexagonal transparent areas on the roof of the smart forvision are an eye-catching feature – it’s the first roof that lets light through and also generates energy. The entire roof surface is covered with transparent organic photovoltaics (OPVs) that are coated with a special clearcoat system. BASF’s clearcoat is not only extremely scratch-resistant, but it also has UV absorbers that are especially well-suited for organic solar cells. While these absorbers offer protection from UV radiation, they let the visible sunlight through that can be converted into electricity by the solar cells. The paint hardens at room temperature in a matter of ten hours. Baking or oven drying it would destroy the cells.

**White special-effect paint for all-plastic wheels**

In the smart forvision, a world innovation yields a considerable weight reduction and a unique design: the first all-plastic Ultramid® Structure wheel rim suitable for high-volume production. The appearance is supported by BASF’s white special-effect paint, which forms a single visual unit with the panels. When coating plastic add-on parts – from the side mirrors to the bumpers – BASF has years of expertise that it drew on for this project. The paint must meet all of the technical properties required for plastics and, at the same time, must ensure the color harmony of the body. BASF has extensive competence in colorimetry and color matching, partly thanks to its ColorCARE® software. ColorCARE® ensures optimum color harmonization, meaning that all parts of a car that are coated separately are the same color in the end.

BASF’s paint systems are high-tech products that are no thicker than a human hair. They do not only provide color and a brilliant appearance, however. The smart forvision concept vehicle demonstrates the significance of intelligent paint systems for the mobile challenges of tomorrow with the high scratch resistance of the clearcoat and with its temperature management system.
“New properties and new approach”

With the new product name RELEST®, RELIUS industrial coating products’ affiliation with the BASF family is now much more obvious than in the past. Anne Heimes-Scheller, Marketing Management Industrial Coatings Solutions Europe, and Dr. Achim Gast, Director Post-Coatings/Industrial Coatings Solutions, explain the background.
Coatings Partner: How did the new RELEST brand come about, and which products does it include?

Anne Heimes-Scheller: The new brand involves RELIUS’ industrial coatings for the areas of wind energy, aircraft, marine/yachts, heavy duty and general industrial coatings. Since we are also increasingly gearing our business in these areas to the international market, integrating them into the BASF Group with its global presence made perfect sense. Furthermore, the products were innovatively refined using BASF research resources. We are taking these new properties and the new orientation into account by switching to the RELEST product name.

Can you be more specific and give us an example?

Dr. Achim Gast: Take the wind energy segment: For more than ten years, RELIUS has been successfully coating rotor blades. For a long time, our market was limited to northern Germany. But the use of wind energy is booming worldwide. RELIUS has been part of BASF since 2007 and can utilize its global network. We are now also providing international rotor blade manufacturers with paints – in North and South America as well as in China and India.

You mentioned technological innovation in the context of the transition to RELEST. What is important when it comes to wind energy?

Anne Heimes-Scheller: Rotor blades no longer measure 20 meters, but sometimes up to 70 meters. The speeds at the tips reach up to 300 kilometers per hour, which creates new demands in terms of erosion resistance, for example. Furthermore, wind rotors are increasingly exposed not only to strong winds, but also to adverse climate conditions in regions such as offshore parks on the high seas or in dry areas with great temperature differences between day and night. And yet they are supposed to last for 20 years. To meet these demands, we have improved the performance of the paints.

What must the paints be capable of?

Anne Heimes-Scheller: They must be UV- and weather-resistant. Rain erosion in particular is a challenge, considering today’s blade speeds. We have specifically developed RELEST® Wind High-Solid Topcoat to meet these needs. This is something very special, as our customers confirm again and again.

But such high-quality products certainly come at a price ...

Dr. Achim Gast: True, but this should be seen in relative terms. The performance of the coatings is one thing, and the application process is another. Coating
the blades is a significant cost factor for the manufacturers – which is why we have continued to develop our products to make the individual layers thinner without compromising performance. The effect: Not only do the blades become lighter, but above all, manufacturers need less paint and the job is finished more quickly. It was possible to reduce the drying times at the same time. For several customers, we are already working on drastically reducing application times. Conversely, this means that more rotor blades can be produced in the same time, increasing productivity.

BASF’s range of services never involves only the product by itself, but always includes comprehensive customer support. How do RELEST users benefit?

**Dr. Achim Gast:** For example, when we receive an order, we always closely examine how a manufacturer produces the rotor blade and what substrate materials are used. We then prepare the paint accordingly. But we also support the customer in optimizing the application processes by helping with the transition from manual rollers to robot applications. Even the wind turbine operators in whose parks blades are already coated with RELEST can benefit from our services. We have created the special RELEST® Wind RepKit for them – a carrying case that contains everything they need to repair paint damage, from abrasives to spray paint. These can be used locally even at greater heights as well as on the ground or for instance, after transport damage, and even directly on the shop floor.

**RELEST wind brochure**

An overview of the range of RELEST Wind products can be found in the just-published BASF brochure “RELEST® Wind – Coating Systems for Wind Energy”. Eight products – including process coatings, sealers and topcoats – are described in detail. The flagship product is RELEST® Wind High-Solid Topcoat. It is characterized by fast drying properties, good UV and weathering resistance, as well as excellent protection against rain erosion. Thanks to its outstanding flow properties, it can be applied in a single step. The brochure is available as a download on the internet.
The prognosis is based both on in-depth research on social developments and on up-to-date developments regarding design, architecture, and fashion. For their investigation work on global developments, BASF Coating’s designers from North and South America, Asia Pacific, and Europe work closely together. Thanks to global workshops and a constant, intensive exchange of ideas, they gain a differentiated and focused view on regional as well as global trends. However, these global trends are expressed by different colors, depending on the region. People from various regions have different color perceptions that are influenced by culture.

“Green luxury” is not an oxymoron

The ecology movement is continuing throughout the globe. However, there is a shift from ecological activism to more realistic approaches. As a result, the image of ecology is changing. Prosperity – even luxury – and ecology are no longer perceived as mutually exclusive concepts. Quite the opposite: ecological thinking and action is recognized and widely accepted. This type of connection can also be observed among the colors of this trend world. Earth tones – from dark brown to bronze to gray and silver – reflect the new ecological awareness. Deep, elegant blue and dark green round off the color palette. The new impression of “green luxury” appears in combination with a subtle or very reduced sparkle. This trend is also embodied by the colors indigo, mint, or broken white.

Symbiosis between humans and technology

Our world is marked by rapid technological progress. Future technologies change our everyday lives and become natural companions. Humans and technology are coming closer together. For this reason, colors in this trend world have a very artificial effect. On the other hand, they are also derived from humans, as exemplified by a skin-colored silver. New color directions represent a fascinating uniqueness. We will be able to see colors like LED blue, brilliant turquoise, sparkling black or bright red.

Emphasizing uniqueness

Another driving force among the trends is individualism. Many people want to move a bit closer to the essence of their personality and are developing themselves in more individualistic ways – embedded in a collective context. The desire to distinguish oneself from the masses and express one’s own individuality is gaining in importance here. This is also expressed in the colors that stand for something new or unique like greige (mixture of gray and beige) or various shades of gold that can even move into reddish gold.

“Come closer”

“Come closer.” With this motto, BASF Coatings’ international design team is presenting its global trend report. In the report, the color experts from Asia Pacific, North America, and Europe are providing a forecast of the automotive colors of the future.
In addition to the three global color trends, the individual regions set different regional focuses:

**Europe:**

Diversity of people and colors

*In Europe, topics such as migration, diversity and cultural identity are shaping the image of society. The continent is changing. Cultural diversity is also accompanied by a new type of color. “Starting with various browns with subtle effects that conjure up home and one’s own roots, the trend is also moving toward exotic and bold, brilliant colors such as yellow, violet and emerald,” said Mark Gutjahr, head of Color Design Europe. “The amalgamation of familiar and novel effects is especially apparent among lilacs, which are immersed in a colorless, familiar gray.” And mat clearcoats are used more and more frequently. They especially reinforce the technical appearance of the car.*

*Several years ago,* the BASF designers predicted the trends of the present. And as it turns out, quite successfully at that: As early as 2005, brown and white were the trend-setting colors in the European trend forecast. Today, brown and white cars can be found on the European roads with increasing frequency. In Germany, for example, the percentage of new registrations of white cars in 2010 had already reached 12 percent and for brown cars, was at around 6 percent. In 2009, this rate was still below 2 percent.
Asia Pacific: Success and intelligence

In the dynamic region of Asia Pacific where changes occur rapidly, there is an elevated mood surrounding the marketplace. “Our attention is focused on having a wider presence, a competitive environment, and achieving success,” said Chiharu Matsuhara, Chief Color Designer for BASF’s Coatings Division in the Asia Pacific region. “Notably, the trend will be reflected in colors predominantly used in the automotive industry in the next two to three years.” Strong colors that express power and the sense of elation are suited for personal compact cars that are expected to increase in developing nations such as China and India. “There is a preference for character colors with straight color tones”, explained Matsuhara. “High quality silver and black project an image of intelligence and discretion and will likely remain popular as colors that symbolize success.”

For motorcycles, which have a wider market, the popular colors vary according to local market characteristics and intended use. Among vehicles intended for family use, black, gray and pearl red, considered to be the most conservative and luxurious-looking colors, are popular in growth markets such as India and China. Young people purchasing small scooters for personal use prefer the smart and stylish effect of white and vivid colors. There is a tendency for colors of larger motorcycles to be closer to the global trend, while the smaller the machine, the greater the preference for colors reflecting local market characteristics.
In North America, color trends are heavily influenced by a changing value system. “Because of many uncertainties in the economy and ecology, people are going back to the basics and finding ways to reconnect to a stronger sense of meaning in their lives,” explained Paul Czornij, head of color design in North America. “Living more ethically, rebuilding trust, and following core values are expressed in colors that evoke a sense of responsibility and commitment. Deep, elegant blues, rich reds, greens from turquoise to pastel give the means to express these feelings.” These colors can show a beautiful, three-dimensional effect or be solid, sophisticated non-metallics. “There is a push towards more non-metallic colors besides white, black, and red in North America as a result of the desire to live more simply.

Belief that society’s issues can be resolved provides a sense of hope, which expresses itself in delicate, playful colors that evoke trust in technology and human initiative to overcome today’s challenges and provide a sense of comfort. Again, green, red and blue shades lead the way to show off shimmering effects.”
Excellent Service Award

For the second time, BASF received the Excellent Service Award from Shanghai Volkswagen Automotive Co. Ltd (SVW). The award honors BASF’s contribution and dedication to the Volkswagen business in China in 2010. “This Excellent Service Award from Volkswagen in China is an outstanding achievement and another proof of BASF’s commitment to quality and customer satisfaction,” said Dr. Ramkumar Dhruva, Vice President in Asia Pacific for BASF Automotive OEM Coatings Solutions.

BASF is the first and only paint company to date to have received the award from Volkswagen in China. “Collaboration is the central element of our activities and our three key competencies, which comprise innovative solutions, close partnership and cutting-edge technology, work together to ensure that our automotive coatings solutions are the best possible options to help our customers to be more successful,” explained Dr. Thierry Herning, General Manager at BASF Shanghai Coatings Co., Ltd. “We are proud to be valued so highly by SVW. We are passionate about moving forward together to achieving even greater results.”

BASF is currently SVW’s lead supplier for coatings solutions and it supplies the global car maker with a full range of automotive coatings products and services and delivers a tailored range of system supply modules. BASF introduced the system supply concept to SVW in 2006 in a pioneer project at one of the company’s plants. The project proved to be a great success, showing, already in the first year, substantial increase in performance levels at SVW’s paint shops. Following the first triumph, SVW adopted the concept in two more plants in 2008.

SVW is the first car-making joint venture since China began its reforms and started its operations in the country in 1985. In 2010, the leading car-maker reported output and sales surpassing one million vehicles. Over the past decade, BASF Shanghai Coatings Co., Ltd has been collaborating closely with SVW.
Triumphant success all around the world

The significance of the environmentally friendly waterborne basecoats is growing worldwide. Asia, too, is increasingly committing to these environmentally friendly products, where the majority of the organic solvents contained in solventborne paint are replaced by water.

25 years ago in Würzburg, BASF Coatings launched its production of waterborne basecoats. In a matter of months, the first cars were coated with the environmentally friendly technology on the paint line at the Opel plant in Bochum. Europe and North America adopted the use of waterborne basecoats as application standard very soon, and in the last years the demand increased also in Asia. In 2000, BASF introduced waterborne basecoats at Honda and Nissan in Japan. In 2005, it was the first company in China to launch waterborne automotive OEM coatings together with Shanghai General Motors.

“We had no experience, and we could not use the existing systems and machinery for WBBC production,” recalled Edgar Winzenhöler, who managed the WBBC production.

Pioneer and technology leader

“We are proud to be a pioneer and technology leader in the area of waterborne basecoats,” declared Dr. Alexander Haunschild, BASF Coatings’ head of Automotive OEM Coatings Solutions Europe. “For this area, we combine our competence and years of experience with environmentally friendly technologies, along with color and design.”

When the first trials with waterborne basecoats (WBBC) got underway in the early 80ies in Würzburg, many were initially very critical of this innovation. “We had no experience, and we could not use the existing systems and machinery for WBBC production,” recalled Edgar Winzenhöler, who managed the WBBC production.

Three who have been present from the start:
Edgar Winzenhöler (left), Sigrid Burger and Stefan Weber were involved in the development and production of the first waterborne paints in Würzburg.
process along with Stefan Weber and Sigrid Burger. “The first experimental car bodies were dried by the application engineers using a hair dryer.” Thanks to a lot of idealism, commitment, creativity and stamina, the Würzburg project, which was initially smiled at, became one of the biggest success stories of BASF Coatings. In 2011 alone, some 35 million vehicles worldwide will be produced with waterborne basecoats, and the trend is rising. While in 1997 the rate of use of waterborne paint systems was 20 percent throughout the world, today this rate has risen to over 50 percent. This is expected to increase to approximately 65 percent by 2015. In order to respond to the increasing significance of waterborne basecoat, BASF has expanded its capacities and has plans to take further investments in this technology.

Great leap towards environmental friendliness “At the time, we were faced with the major challenge of replacing the successful solventborne basecoat/clearcoat system in mass production with the new technology. The use of water-based paints in this system was a great leap towards environmental friendliness, since it was possible to significantly reduce the emissions of solvents in the coating process," summarized longtime head of Technology, Dr. Winfried Kreis, who was responsible for the pilot applications of metallic paints from 1984 to 1985 in Würzburg. The use of BASF Coatings’ waterborne basecoats in the 25 years of their production history has meant savings of over 150,000 tonnes of solvents in Germany alone.

Integrated Process II
BASF introduced a further milestone in its ecological innovations with Integrated Process II. This application process integrates the functions that are currently performed by the primer surfacer (such as protection against stone chipping) into the basecoat, which provides the color. This innovation can make the entire primer surfacer application section superfluous when automotive bodies are coated, with a corresponding shortening of the paint line. This boosts capacity and reduces production costs for the customers. It also significantly reduces solvents and CO₂ emissions as well as energy use. “Just like the waterborne basecoats, the Integrated Process II will establish itself as the application standard of the future,” Haunschild said.

Anniversary color created
BASF Coatings’ designers in Europe, Mark Gutjahr and Corinna Sy, have developed a new color to mark the anniversary: an XFine® in metallic gold. XFine colors are BASF’s waterborne color innovation. Thanks to an innovative formula, very fine aluminum particles are arranged flat next to the other and thus have a kind of mirror effect on the body. This effect yields powerful contrasts and uniquely highlights the contours of the car body,” Gutjahr explained. “These properties lend the anniversary color its luxurious effect. In addition, golds correspond to our trend forecast and will be used for cars more frequently in the future.”

BASF Coatings’ XFines® thrill the design world. After its prize in the Automotive Brand Contest, BASF has now received the 2011 Materialica Design & Technology Award for its color innovation in the Surface and Technology Category.
Integrated Process at Hyundai

The car manufacturer’s new factory in Brazil will employ an innovative process using waterborne paints on the paint line.

BASF will supply the waterborne automotive paints for Hyundai Motors’ new factory in Piracicaba, Brazil, a city in the state of São Paulo. This technology reduces the emission of volatile organic compounds (VOCs), benefitting both people and the environment. With respect to the partnership between the two companies, it is also noteworthy that Hyundai will be the first car manufacturer in South America to use BASF’s Integrated Process to paint automotive bodywork.

This automotive paint system has been gaining ground among car manufacturers throughout the world, offering significant advantages in terms of both time and costs. This is because the Integrated Process eliminates one of the steps of the painting process without any compromise to the quality of the color or the final result.

However, what exactly is the Integrated Process? The primer (the first spraycoat applied to the car, which allows the adhesion of the paint itself), the basecoat (the second coat of paint, which gives the car its color) and the clearcoat (the top layer which provides the gloss) are the products successively applied to the bodywork of the vehicles on traditional automotive paint lines. With the Integrated Process, the drying phase after the application of the primer is eliminated. For Hyundai, this innovation will substantially reduce costs due to a significantly shortened process time and will potentially reduce energy consumption, which benefits the environment.

The activities at the new industrial plant are scheduled to be launched in 2012, with an anticipated production capacity of 150,000 vehicles per year. The i20 will be the first Hyundai model to undergo the Integrated Process. “Winning a customer like Hyundai boosts the strength of the automotive paint business in Brazil,” said Gisele Regina dos Santos, BASF’s Sales Manager for Automotive Paints.

Dos Santos explained that the project started in late 2009, with BASF investing in technology as well as in the training of the region’s employees. “We are receiving support from colleagues in other countries that have already supplied paints to Hyundai. This will allow us to share experiences with customers,” she said. Project team members come from sales, marketing, development and technical assistance in Argentina, Brazil, Germany, the United States and Korea.
Automotive haute couture

Honda and the “Intersection“ design magazine announce Honda CR-Z Intersection – a contemporary car with more than one look. The BASF brand CARIZZMA by R-M® developed a specially customized beige paint.

Haute Couture pur: The intersection magazine, the only magazine in the world dedicated to “style in motion”, has been published in about a dozen countries for over ten years now. The team is fulfilling a long-held dream: a link up with Honda and a joint study in a production car. The Honda CR-Z Intersection demonstrates the magazine’s philosophy in terms of overall design, specific parts and accessories. Discreet lines, elegant colours and a devotion to detail… Customizing on a different level.

The bodywork will show off a specially created beige color from CARIZZMA by R-M and the custom-made rims will come in two collections – black tyres and rims for autumn and winter, and orange tyres and rims for spring and summer. The Anglo-Japanese brand Eley Kishimoto has created a series of seat covers for the interior that are unlike any others in the world. They feature subtle motifs, adding a “pop” feel to this coupé, which in itself is a declaration of their Japanese love affair.

The official unveiling of the car took place in September in the Galerie Nikki Diana Marquardt in Paris.

Lifestyle: Customizing on an different level – with CARIZZMA by R-M paints.
Time is money. Settling a claim requires particularly fast and efficient action, and support from experts is indispensable. BASF Coatings has an experienced partner at its side, Audatex.

**First aid for damage repair**

**A global company**, Audatex has been supporting all parties involved in settling claims with its specialized data and IT services for over 40 years. Accidents resulting in paint damage happen quickly, whether it’s a case of being distracted briefly or being in the wrong place at the wrong time. It is now time for bodyshops to show their colors when it comes to both new cars and beloved classic cars. As service providers, they need to fulfill the requirements from insurance companies and other “work providers.” This term describes the parties that are a part of claims settlement. BASF Coatings supports its customers in this complex area. It has entered into an EMEA (Europe, Middle East and Africa) cooperation agreement with Audatex.

**As the first company** in the coatings sector to do so, BASF Coatings signed an international agreement for cooperation with Audatex in June 2010. The cooperation calls for the increased use of Audatex services and it started with an extensive pilot phase in Poland where the Audatex-BASF Estimating Seminar was developed and tested in cooperation with customers. More countries, including Russia, Ukraine, Croatia, Bulgaria, Romania and Portugal, will follow this year. In particular, communication between the bodyshops, the insurance companies, experts and car owners is becoming increasingly complex. This is why BASF Coatings help its customers to successfully improve the communication with all parties involved with the use of Audatex solutions.

**As part of the Solera Group**, Audatex is the top solutions provider for processing collision damage and an established partner of insurance companies, bodyshops, carmakers and automotive experts. The majority of computerized damage estimates in Europe are based on an Audatex calculation. According to Alberto Garcia-Martin, ECR Consultancy Services BASF Coatings, the cooperation benefits both sides: “The bodyshops can accommodate the requirements of the different business partners even better with the help of Audatex services.”

“Our customers receive all important services for settling claims from one source. In addition to a complete estimating system, Audatex provides for vehicle evaluation and electronic claims communication,” explained Jan Koolen, Senior Director Industry Relations at the Solera Global Automotive Center.
Coatings for trains

Distinctive design

From Spain to the world: BASF supplies paints for locomotives, rail cars, metros and trams throughout the world.

Trams and metros are a part of everyday life in large cities all over the world. Hong Kong, Washington or Mexico City – trains and carriages have long since become indispensable for transport. They not only serve as the preferred means of transportation for residents and visitors, but are also a prerequisite for the mobility that is in great demand. Without them, travelling to work would be much more difficult. Every day, millions of passengers reach their desired destination quickly and safely in this way.

The color of the trains makes them particularly memorable. As is the case with buses and taxis, operators of rail vehicles mark their trains using uniform colors. These must match the respective company’s corporate design and are used for recognition purposes. BASF Coatings offers solutions for painting trains, locomotives, carriages, bogies and their axles. One of its biggest customers is the Spanish company Construcciones y Auxiliar de Ferrocarriles (CAF), S.A., which is one of the international market leaders for design, manufacture, maintenance and supply of equipment and components for railway systems. As a train manufacturer, CAF supplies operating companies around the world. Currently this company has eight main production centers at Beasain, Zaragoza, Irun, Elmira, Linares, Castejon, Lerida and Suresnes plus assembly and maintenance plants in many countries.

Recently CAF invested into a new production plant in Brazil in order to service the South American market and the NAFTA region. BASF is primarily responsible for the external appearance of the rail vehicles. The company supplies the paints for most of the trams and metros produced by CAF. In Spain, BASF is the main supplier for original coating and responsible for more than 80 percent of all CAF projects.

The paint manufacturer, together with CAF, secured a very special order in Latin America. In Mexico City, one of the largest metropolitan regions in the world, the local Metro line 12 is being painted. The “Línea del Bicentenario”, which connects Mixcoac with Tláhuac in the southeast of this city with 23 million inhabitants, consists of 210 carriages. In total, the entire Metro system transports some four million people in the Mexican capital every day. Particularly when in use every day, the coatings must have very special properties.
Coatings for trains

They have to withstand a wide variety of climatic conditions, be corrosion-resistant and satisfy current fire regulations.

The BASF European Development Center for rolling stock coatings is situated at the BASF Guadalajara site. The products of the applied paint systems have many different features and had been developed by a specialized technical team in Guadalajara. The primary focus of the Technical Team is to develop new products to improve performance and sustainability according to customer requirements. The product range consists of two up to four layer coatings. The latter are composed of basecoats and clearcoats or specialized paints. This also includes an anti-graffiti clearcoat that makes it easy to clean trains stained by graffiti. The technical specifications for these products were jointly developed with CAF technical staff during years of close collaboration.

For more than 35 years now, BASF Coatings has been supplying CAF with high-quality coatings for rolling stock and they are in operation all around the world. BASF not only supplies the paint itself, but also provides its clients with comprehensive services. There is a local technical emergency service and employees receive special training provided by the Spanish Rolling Stock Team.

The collaboration between CAF and BASF is successful worldwide. Trains made by the Spanish manufacturer also travel within other large cities throughout the world: Madrid, Barcelona, Washington, Hong Kong, New Delhi or Santiago de Chile – CAF rail vehicles travel with coatings from BASF Coatings.

The fact that this segment will enjoy high demand in the future is certain. Rail vehicles are a major growth market. Many regions still have a lot of catching up to do, and are expanding rapidly in this area. The rail network is expanding above all in Russia and China. Colorful carriages and trains may also be seen increasingly often in these regions as well.
The rapid urban development in China brings about creative and colorful architecture in the cities, making them an even more attractive place to dwell in. Walmart, the globally renowned retail chain, introduces not only pleasant shopping experience to their customers, but also a striking appearance for their newly opened supermarket in the city of Hefei in the Anhui Province. The façade of the Walmart Supercenter is painted with a picture of landscapes and famous places from all over the world, and has now become a landmark in the neighborhood area.

The picture spans a total of 5,000 square meters of exterior wall. The vivid colors used in the picture are paints from NORBIN™, the decorative paint brand supplied by BASF. NORBIN decorative paints, introduced in December 2009, are specifically developed for the market in China, where environmentally friendliness, weather resistance, dirt pick-up resistance, washability and durability are important criteria for decorative paints.

The NORBIN series includes products that have no detectable VOC (Volatile Organic Compounds). Minimizing VOCs is important to safeguard the health of painters, tenants and households.

The high quality and easy application process of NORBIN products are highly appreciated by the customers. Lin Liu, chairman of Anhui Bo’ao Real Estate Development Co., Ltd. and developer of the Walmart Supercenter building in Hefei, commented: “Through comprehensive evaluation of this project, NORBIN’s exterior decorative paints exceed our expectations in all aspects including performance, safety and aesthetic effects. BASF also provides us with excellent technical support to ensure the best application on the façade.”

The project of the Walmart Supercenter in Hefei is a special project for the NORBIN team. The team usually works on large-scale projects in different parts of China. To support the growing business in China, the NORBIN team will continue to expand, with more colleagues taking up responsibilities in the areas of business development, product management, marketing and sales.

“We have developed NORBIN in China for the local market with a great deal of passion,” emphasized Walter Liu, General Manager, BASF Coatings International Trade (Shanghai) Co., Ltd. This allows BASF to offer products that are specifically adapted to the climate conditions in the different parts of the country. The NORBIN team also gears its products to the desires of the end users in China when it comes to the design. “Individually textured colors that look like stone are popular at the moment,” said Andy Xu, Product Manager at BASF.

The name NORBIN keeps what it promises, since its Chinese version corresponds to “a colorful promise”. The NORBIN experts at BASF definitely kept their promise to the Walmart Supercenter in Hefei with creating its bright and vivid walls.
Suvinil Acrylic Antibacterial eliminates 99 percent of the microorganisms on the surface of any wall and prevents them from returning for two years. The product will revolutionize the market, since it is the first product to get approval from Anvisa (Brazil’s National Health Surveillance Agency), which certifies its safety and effectiveness, and strengthens the pioneering brand. Now, besides its already renowned quality and technology and range of over 1500 colors that turn a wall into a decorative and environmentally friendly part of the furnishings, Suvinil promotes its users well-being and makes them safe indoors.

Suvinil Acrylic Antibacterial is the result of an extensive research and development study, driven by the concept of ongoing innovation rooted in the brand’s culture. It has an exclusive formula comprised of antibacterial agents that act on a wall, eliminating 99 percent of these microorganisms. The paint can be washed without compromising the effect, making it ideal for use in hospitals, schools and pediatric clinics as well.

Eugenio Luporini Neto, BASF Vice President of Coatings and Refinish in South America, emphasizes the relevance of the product for the market segment. “The market for antibacterial products has grown by 25 percent in the last three years. As market leaders of paint, it is up to us to ensure that the desires of consumers in this segment are completely fulfilled. This is the first and only product with these characteristics in Brazil,” he explained. Suvinil Acrylic Antibacterial’s launch is likely to revolutionize the market. “The unprecedented approval by Anvisa endorses the efficacy and safety of the product and justifies marketing of this type of paint in the country,” Neto pointed out.

Suvinil Acrylic Antibacterial has been tested and approved according to the parameters of the JIS 2801:2000 (Japanese Industrial Standard) for antimicrobial products. The test for activity and effectiveness verifies the potency of paint. “The bacteria can form biofilms on surfaces and this methodology allows verification of the effectiveness of the product applied to the surface of the wall against the major bacteria,” said Viviane Alves da Silva, Laboratory of Microbiology Analysts at BASF in South America.

Suvinil, BASF's decorative paints brand in Brazil, showcases antibacterial paint
BASF is the world’s leading chemical company: The Chemical Company. Worldwide, we help our customers to be more successful through intelligent system solutions and high-quality products. BASF has significant market positions in the coatings sector in Europe, North America, South America and the Asia Pacific region.

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