ECS SHOWCASES THE WORLD’S ADVANCEMENTS IN COATINGS TECHNOLOGY

The European Coatings Show (ECS) set new records once again this year, with approximately 30,500 trade visitors (2017: 30,198) from 124 countries (2017: 120), and 1,156 exhibitors from 46 countries (2017: 40). The exhibition area extended to eight halls this year, and provided attendees the opportunity to learn about the latest technology in the industry. Following is a glimpse of some of the advancements and new solutions presented at this year’s event. A more in-depth article can be found at www.pcimag.com.

DSM Sets Bold Targets

DSM kicked off the European Coatings Show on the first morning with a press conference. Helen Mets, President of DSM Resins & Functional Materials, announced a series of ambitious sustainability targets for its Coating Resins business that will help it to become even more environmentally friendly in the coming years. To address specific industry demands and in line with its “Purpose Led, Performance Driven” strategy, DSM boldly declared its intention to become one the most environmentally friendly producers within the coating resins industry, and the most market-leading supplier of sustainable solutions.

“For too long, there has been a general feeling that you either do well in business or do good for the environment – that you have to choose between performing well financially and contributing to a better world. I’m proud that my organization doesn’t think this way,” said Mets. “We strongly believe that doing good and doing well go hand-in-hand.”

The business is dedicated to improving both the environmental impact of its operations and the sustainability value of its portfolio. To achieve this, it has announced a series of ambitious sustainability-related targets, including the following.

**Sustainable Operations**

- By 2030 the business will reduce its GHG emissions by 30% in absolute numbers compared to 2016. As a means to achieve this, at least 75% of purchased electricity will be renewable, and it will improve its overall energy efficiency annually by >1% on average.
- By 2020 the business will reduce all emissions-to-air from operations by 40%.
- By 2022 the business will have zero waste to landfill.

**Sustainable Portfolio**

- Accelerate the phase-out of all chemicals of high concern from finished products. The business already started this journey, and it is their ambition to have no sales of products containing chemicals of high concerns by 2025.
- Reduce indirect value chain emissions by 28% per ton of product produced by 2030 (vs 2016).
- Accelerate this carbon-footprint reduction by ensuring that by 2030 at least 30% of the raw materials it sources are bio-based and/or recycled materials.

In the coating resins segment, answering customer needs for sustainable solutions will continue to drive the business group’s growth. In line with this, the company launched two new products at the ECS. The first is Urac® EasyCure resin, P 3225, for low-temperature and/or fast-cure powder coating applications for heavy machinery or architectural components. The new resin underlines DSM’s commitment to using its scientific capabilities to develop products with both higher functional performance and a higher sustainability value than conventional alternatives.

Above all, the new resin addresses the growing market demand for powder coatings that can be cured quicker or at lower temperatures. In particular, the Urac® EasyCure P 3225 resin can either be cured in just 5 to 6 minutes at 180 °C, compared to the 10 to 12 minutes of market alternatives, or in 12 minutes at 160 °C. In this way, the
resin enables higher production output and can help prevent bottlenecks, as well as lowering energy consumption, reducing natural gas usage by up to 30%.

The resin delivers the same excellent appearance and coating properties as current alternatives offered at 20 °C higher temperatures. Specifically, it offers a unique combination of coating benefits by enabling good appearance, robust outdoor durability, higher degassing limit and reliable storage stability.

The company also introduced a new, bio-based self-matting resin, Decovery® SP-2022 XP, which will take ultra-matt flooring finishes to new levels in terms of aesthetic and functional performance, ease of application and sustainability.

Used to create low-gloss finishes on wooden and seamless flooring, Decovery SP-2022 XP resin offers excellent levels of functional performance at a much-reduced environmental impact. Specifically, the resin has 30% bio-based content, can be formulated with low levels of VOCs (less than 250 g/L based on 40 CFR 59.406), and is low in odor, while also delivering outstanding chemical resistance and mechanical properties, including scratch resistance.

In addition, the new resin addresses the strong market demand for ultra-matt coating products that are easier to apply and formulate. In particular, it requires no matting agents, no difficult formulations and offers excellent in-can stability.

Ascend's New High-Performance Additives

Ascend Performance Materials introduced new high-purity grades of its Hexatran™ and FlexaTram™-DAM high-performance amines for the paint and coatings industry. Hexatran-110 is a 99% pure grade of the company’s unique trifunctional aliphatic amine, and FlexaTram-DAM-950 is an over 95% pure grade of 1,2-diaminocyclohexane (DCH).

With high amine values, low odor and low vapor pressure, both Hexatran-110 and FlexaTram-DAM-950 are effective as epoxy curing agents to improve the workability, flexibility, and chemical and heat resistance of industrial coatings.

Hexatran-110 is also a potential trisocyanate precursor, providing alternate routes to carbamates and isocyanates. In urethane coatings, trisocyanate made with Hexatran helps resist yellowing and withstand harsh conditions, even at reduced thickness.

“We are focused on offering unique, value-adding products that improve performance for our customers,” said Jonathan Craig, Vice President of Specialty Chemicals at Ascend. “Hexatran-110 and FlexaTram-DAM-950 help our customers produce stronger, more resilient coatings that withstand harsh environments without sacrificing workability.”

WACKER Presented Dispersible Polymer Powders for Biocide-Free Wall Paints

WACKER introduced several new products at ECS, however the most notable in my opinion was the new NEXIVA® product line. With these dispersible polymer powders, manufacturers can produce interior wall paints in powder form. The technology does not require the addition of biocides and offers key advantages when it comes to storing and transporting paints.

The technology is based on spray-dried polymeric binders suitable for producing interior wall paints in either liquid or powder form. Paint manufacturers can use NEXIVA to create individual paint formulations, just as they can with traditional binders in dispersion form.

Powder paints remain stable, even without the addition of preservatives. Water for re-dispersing the paints is not added until just prior to application, thus eliminating the need for adding biocides during production. As the paint dries, all that evaporates is water. Thanks to the polymers, the paint adheres well and has good spreading properties. In addition, paints are easier to transport and store when they are in powder form, as they weigh less, and can be packaged differently from liquid paints. Unlike traditional wall paints, powdered versions do not freeze in the cold, nor do they thicken when exposed to heat.

The company also unveiled SILRES® BS 6921, a new silane-based binder. This product has been specifically developed for blending with SILRES BS 6920, which itself is a binder for the production of hard-wearing, stain-resistant anti-soiling coatings for concrete floors. Addition of SILRES BS 6921 yields products that are much more flexible. Such coatings are eminently suitable for treating epoxy or polyurethane floors in need of repair.

WACKER also presented a new polymeric binder for the production of interior paints with ecolabel credentials. In VINNAPAS® EP 3560, the company launched a new dispersion that facilitates the formulation of paints that have a lower odor and produce fewer emissions. The new product offers a compelling blend of very good dispersibility and high alkaline hydrolysis resistance.

A new product line for polymeric binders based on renewable raw materials was also introduced. VINNECO® polymeric binders are partly based on renewable raw materials and are produced by two different processes – one using bio-based acetic acid and the other potato starch. The new dispersions are especially well suited for the production of interior paints and plasters.
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“Our customers are also increasingly looking for alternatives to binders based on fossil feedstocks,” says Dr. Lada Bemert, a Senior Technical Service Manager at WACKER POLYMERS. “We’ve updated our processes accordingly and our use of renewable raw materials is taking dispersion manufacturing in a new direction.” WACKER uses two methods for producing binders based on renewable resources and will market these under the VINNECO product line. Five of these products were unveiled at ECS.

WACKER also introduced its new VINNEVA® product line. These polymer binders enhance the properties of bitumen-based building coatings and ensure that they adhere excellently to concrete, brick and cement.

SONGWON’s Expanded Range of Specialty Chemicals

With an exhibit designed to give customers a personalized experience reflecting their needs, SONGWON Industrial Co., Ltd. presented a number of products for the first time, including two new stabilizers, an antioxidant and two ranges of functional monomers.

New Water-Based Stabilizers for Coatings

Demonstrating its commitment to improving sustainability throughout the coatings value chain, SONGWON launched its new water-based (WB) product range, a group of water-miscible products that have been developed to meet the increased demand for environmentally acceptable additives.

“The new light stabilizers and anti-oxidant combine the efficiency of conventional products with the benefits not only of water miscibility and low- to zero-VOC generation, but also of easy dosing and handling,” explained Rosanna Telesca, Leader of the Market Center Coatings.

The range consists of a benzotriazole-based UV absorber – SONGSORB® CS 326 WB – for waterborne industrial, architectural, decorative and wood coating applications, a waterborne triazine-based UV absorber – SONGSORB CS 400 WB – which is also suitable for more demanding applications such as automotive coatings, and a water-compatible phenolic antioxidant – SONGNOX® CS 2450 WB – for polyurethane-based coatings. Together with the water-compatible hindered amine light stabilizer (HALS) SONGSORB CS AQ01, which was introduced at the last ECS, these products provide a synergistic stabilization package for water-based coating systems.

SONGWON’s team of specialty chemicals experts is currently working to expand the newly introduced WB range still further, with the addition of new WB blends of light stabilizers, which are currently being tested.

Launch of Functional Monomers

The first two ranges of functional monomers are now available, and a third line is under development.

“Functional monomers are specialty molecules that can provide a standard polymer with additional, enhanced performance effects and/or significantly improve processing performance,” said Heinrich Schulte, Leader of the Market Center Functional Monomers. “Resin manufacturers can benefit from the high performance as well as the cost efficiency of our new functional monomers,” he emphasized.

ERM-6100 is the latest addition to SONGWON’s range of dicyclopentadiene phenol resins. These monomers are mainly used during the manufacture of epoxy composites as epoxy resin modifiers in epoxy chain-extending reactions and as hardeners. The new monomer, which combines high functionality with low viscosity, has been...
developed especially for electronic applications and high-performance resins such as polybenzoxazine.

SONGWON has also added two bisphenol (BP) monomers to its portfolio. BP-TMC is used to modify epoxy resins as well as non-optical polycarbonate and polyester polymers. It is distinguished by its cost efficiency and good chemical purity.

Evonik Introduced AI-Powered Digital Lab Assistant

Evonik offers 2,000 products for coatings and adhesives applications, including one new product that is not a chemical – COATINO™. COATINO is the prototype of the first digital product powered by Evonik Coating Additives. It is a voice-controlled, multi-channel platform enabling fast and easy access to Evonik’s Coating Additives solutions – anytime and everywhere. COATINO is a digital lab assistant understanding coatings-specific terms and vocabulary. The product is set to launch early next year, and Evonik offered a live demo at the booth, encouraging customer and user feedback.

Evonik also featured many new chemical products, including the following:

- **Curing agents:** These products help users to meet increasingly stringent environmental regulations. They comprise Anquamine® 728, an aqueous curing agent for epoxy floor primers and coatings, which can be finished with a top coat in less than four hours at 10 °C; Ancamide® 2769, which allows for excellent corrosion resistance to ensure long-term object protection; and Ancamine® 2878, which achieves particularly fast curing times, even at low and medium temperatures.
- **Environmentally friendly crosslinkers:** VESTANAT® EP-EF 201 is a silane/PUR hybrid adduct for single-component clear coatings that is suitable for DIY applications and guarantees a particularly high-quality appearance of wood coatings.
- **Easy-to-disperse fumed silicas:** An innovation in the production process of AEROSIL® fumed oxides allows the wetting and dispersing of fumed silicas in one single work step – formerly possible only in two separate steps (dissolver and bead mill).
- **A team for corrosion protection:** The binder Dynasylan® SIVO 140 for water-based primers and SILIKOPON® EF for solventborne ultra-high-solid top coats form the perfect team for highly effective corrosion protection.
- **Polymer powder for higher temperature range:** Evonik’s new polymer powder of the polyamide 6 series, designed for applications in higher temperature ranges, features high mechanical strength as well as excellent chemical and temperature resistance.
- **Low-odor reactive diluent:** Evonik has launched VISIONER® GLYFOMA, a new low-odor reactive diluent for adhesive formulations, composite resins and coatings.

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This partially bio-based methacrylate monomer stands out for its exceptionally low levels of vapor pressure, which facilitates open handling. In Europe, VISIOMER GLYFOMA is label-free and registered with REACH.

- **Binders for interior can coatings:** Evonik invested in the expansion of production capacities for high-molecular specialty copolyesters at its Witten site. The high-molecular polyesters of the DYNAPOL® brand serve as binders for coatings. In addition to coating large metal bands, they are increasingly used in interior coatings for cans with food contact as well as in flexible packaging.

**Troy’s MIT-Free Wet-State Preservatives**

Troy featured its advanced dry-film preservatives for Europe, including its broad line of new, innovative controlled-release products based on the company’s next-generation microencapsulation technology. This range of Polyphase and Troysean CR preservatives offers highly effective protection against fungi and algae, with remarkably long-lasting performance. Troy’s new CR preservatives also feature enhanced resistance to leaching, which benefits not only performance, but also the environment.

Troy also presented its line of advanced Mergal and Nuo-sept MIT-free wet-state preservatives for European manufacturers. With full regulatory compliance, excellent proven performance against microbial contamination, and low cost-in-use, Troy’s MIT-free wet-state preservatives offer excellent solutions to the challenges European manufacturers face. Featured at ECS 2019 was advanced Mergal ZBIT, an MIT-free wet-state preservative offering long-lasting, broad-spectrum protection against bacteria, fungi and yeast. Mergal ZBIT is suitable for a wide range of systems.

The Troy exhibit also showcased the company’s full portfolio of performance additives as well as metal carboxylates. Featured were new, advanced multi-functional dispersant, Troyperse ZWD8, a 100%-active, polymeric wetting and dispersing additive for titanium dioxide and inorganic pigments in aqueous coating applications. Troyperse ZWD8 is especially effective in high-performance systems that require properties such as high gloss, improved durability and excellent color uniformity.

**Elementis Showcased Technology Focused on Waterborne and Sustainable Solutions**

The Coatings Business Segment of Elementis showcased its innovative rheology technology and solutions. The company offers an extensive portfolio of specialty additives that are used for waterborne, solvent-free and solventborne coatings, inks, adhesives, architectural and construction industries.

With its acquisition of Mondo Minerals in 2018, Elementis expanded its portfolio to also include unique, high-performance functional extenders that are innovative and custom made for architectural paints and industrial coat-
ings. Elementis’ high-performance products and solutions address end users’ growing requirements for meeting and exceeding international health, environmental and safety standards; easier incorporation, handling and application of paints; and improved manufacturing efficiencies and decreased energy consumption.

“Elementis is committed to addressing the ongoing demands for waterborne and environmentally sustainable products and solutions among our end users in Europe and throughout other parts of the world. Our formulators are focused on removing preservatives from additives for industrial and architectural paints and coatings, with a goal of moving towards preservative-free additives,” commented Luc van Ravenstein, Vice President, Global Coatings & Energy.

New at ECS
To address new trends in the marketplace as well as customer needs, Elementis introduced SUPREAD® 2059 and NUOSPERSE® FX 7500W. SUPREAD 2059 is a silicone-free, low-foaming wetting agent for aqueous coatings that provides multi-functional surface wetting performance while minimizing foam generation in both the coating manufacturing process and application. NUOSPERSE FX 7500W is a wetting and dispersing agent for industrial waterborne paints and aqueous inks. It offers an excellent viscosity-reducing effect, while improving color strength of organic and inorganic pigments.

allnex Launched “Primavera Day” for its Company-Wide Sustainability Initiative
allnex, a leading supplier of coating resins, additives and cross-linkers for use on wood, metal, plastic and other surfaces, emphasized its broad portfolio, sustainability and innovation. “The show was the perfect venue for allnex to host the launch of its global, company-wide sustainability initiative, “Primavera Day” on the first day of spring, which inspired its name. This initiative was created to show how sustainability is lived and breathed by all employees worldwide”, said Stéphanie Heng, Global Communications Director. allnex is known for its portfolio of sustainable products, and has worked actively to reduce the energy used to produce these products by 15% over the last eight years. But the company realized that employees and customers weren’t seeing everything that was being done on the topic of sustainability – at all levels and locations around the world. The company recently appointed Dr. Michela Fusco to the newly created position of Head of Sustainability to lead these efforts. “The initiative reflects the behavior and mindset of employees, as well as how they work with customers,” said Fusco.

The company’s completely redesigned exhibit showed ECS visitors that are active in a variety of markets and in search of specific requirements, how partnering with allnex will help them make the shift towards green, high-performing but also innovative solutions.

At the “Green Coffee Corner,” visitors browsed through the company’s green portfolio to learn more about its sustainability achievements throughout the course of the year. There, visitors were able to relax and catch up on all of the latest developments in the field of sustainable solutions.

In addition, the allnex “Innovation Corner” acquainted visitors with the latest products designed to answer customer needs and meet the latest trends in the paint market. Customers could gain an understanding and overview of recent innovations across all market areas, such as:

• the most recent additions to the Radcure portfolio, including the latest WBUV developments and resins for 3D printing;
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- low-temperature-cure powder coating resins and liquid crosslinking resins;
- formaldehyde-free crosslinkers for use across a variety of end-use applications;
- phenolics enabling formulation of BPA non-intended packaging coatings;
- a versatile portfolio of innovative solutions to address pot-life and cure-speed balance for 2K systems with ACURE® and fast-cure acrylic polyols;
- waterborne solutions for application on wood with improved durability, flow and leveling properties as well as stain-blocking resins;
- direct adhesion to untreated polypropylene with modified acrylic binders.

Covestro Boosts Furniture Coating Efficiency
The furniture market is growing worldwide. In light of the intense competition, manufacturers are facing increasing pressure to react more flexibly and shorten lead times. This is also true for industrial furniture coatings, where there is a constant need to balance speed and quality. Beyond efficiency, the furniture market follows the global trends and puts increasing emphasis on sustainability.

Covestro presented Bayhydrol® eco UV 2877, a fast-drying dispersion offering great application flexibility when used in UV-curing, one- and two-component coating systems. It can be used in both pigmented and clear coat formulations, and is equally suitable for top coats and primers. Moreover, around 35% of the product is based on biomass.

Coating formulations based on Bayhydrol eco UV 2877 show a multi-curing mechanism: the coatings achieve tack-free films with good mechanical properties and stain resistance even before UV curing or at low UV energy dosage. Curing with UV radiation gives final coatings with even higher chemical resistance and hardness.

“Drying is up to 50% faster than with a high-performance standard product,” says Dr. Berta Vega Sánchez, Marketing Manager for furniture coatings and adhesives at Covestro. “The coating achieves good properties even in shaded areas without the need to add an additional hardener, which is equally beneficial to coating formulators and parts manufacturers.”

Furniture manufacturers gain design freedom, since three-dimensional parts with shaded areas can be coated to a high level of quality. One-component UV coatings are easy to handle, there is no pot life to consider and there is less waste than with standard systems.

The waterborne coatings require no reactive thinner and emit lower amounts of VOCs than standard systems, allowing for more favorable labeling. The lower dependence on UV quality means that either processors can reduce the UV dosage, or coatings formulators can reduce the amount of photoinitiator, which is a real cost advantage.

LANXESS Featured Wider Portfolio for High-Quality Coatings
Specialty chemicals company LANXESS showcased its most extensive product portfolio to date for the manufacturing of high-quality coatings. This year, it included not only colorants, preservatives and benzyl products, but also a wide range of aqueous special polyurethane dispersions (PUD) and urethane prepolymers for coating systems. One focus was on the presentation of innovative raw materials for paints to formulate solvent-free, low-monomer and ease-of-use systems for a wide range of applications from glass fiber and plastic coatings to vehicle paintwork.

“We supplemented our extensive range of CASE applications to include a high-performance polyurethane toolbox via the acquisition of the Chemtura businesses in 2017. We are now presenting these tried-and-tested and, in many cases, new products for the first time under the LANXESS umbrella at the leading trade fair for the paint and varnish industry,” said Dr. Matthias Huettl, Global Marketing Manager in the Urethane Systems (URE) business unit. CASE stands for coatings, sealants, adhesive and elastomers.

The focus at ECS was on aqueous polyurethane dispersions from the Witcobond brand and the water-based blocked crosslinking agents from the Trixene Aqua series for high-performance coatings.

In addition to aqueous polyurethane dispersions and blocked crosslinking agents, the LANXESS toolbox includes a wide range of prepolymers with low residual monomer content (< 0.1% free isocyanate). The NCO content and the viscosity can be adjusted to meet application and customer requirements. The product range also includes blocked variants for the formulation of 1K systems.

Standards for New Red Pigments Introduced Worldwide
The new iron oxide red pigments from LANXESS that are produced in Ningbo, China, are proven in practice: following extensive long-term tests by leading paint and coatings manufacturers, the final standards have been determined and trial products have been renamed as regular sales products. They are now part of the new global Bayferrox 500 series. With these “New Red” pigments, LANXESS is completing its product portfolio particularly in the spectrum of bright yellow-shade red pigments. The most yellow-shade iron oxide red pigment in the LANXESS portfolio is Bayferrox 502, showing highest chromaticity, both in full shade and reduction. “The proven color stability of our pigments in conjunction with stringent product specifications means that the new pigment types can be used reliably in all common paint systems,” said Stephan Spiegelhauer, Head of the Global Competence Center Paints & Coatings in the Inorganic Pigments business unit (IPG).

Photo courtesy of Covestro.
The micronized red pigments that LANXESS manufactures using the Laux process also meet the most stringent requirements. These calcined types have a unique property profile that distinguishes them from all other iron oxide pigments available on the market for paint and coatings applications in two essential respects. Firstly, they have the highest milling stability. Even under high shear forces during the dispersion process, Laux pigments remain resistant to color changes. Secondly, these pigment types are thermally stable up to temperatures of 800 °C, whereas red pigments (hematite, Fe₂O₃) produced using other manufacturing processes are typically only resistant up to a maximum of 400 °C, due to their chemical structures.

Biocides: MIT-Free Portfolio and Slow-Release Technology
LANXESS presented its microbicides for the preservation of paints, varnishes, plaster and mortar. The focus was on a new methylisothiazolinone-free (MIT) portfolio. This will enable formulators to meet the new specific concentration limit for MIT that was published in October 2018 by the EU Commission. The MIT-free portfolio allows to avoid hazard statement H317 (May cause an allergic skin reaction.) on the container. In addition to conventional active ingredients, special formulations are available that are totally free of isothiazolinones, such as combinations with 1,2-dibromo-2,4-dicyanobutane (DBDCB).

LANXESS also presented a new generation of dry-film products from the Preventol next series. The distinguishing feature is an innovative, slow-release technology.

Nouryon Ingredient Enhances the Stability of VOC-Free Paint at Low Temperatures
Nouryon (formerly AkzoNobel Specialty Chemicals) launched a next-generation multi-functional additive, Ethylan EF-60, which enables formulators to ensure low-temperature storage stability of VOC-free waterborne latex paint products.

“Consumer demand is driving the industry to develop low-odor, zero-VOC coatings,” said Shirley Go, Marketing Manager Performance Ingredients at Nouryon. “Ethylan EF-60 not only provides the formulating freedom to help eliminate VOCs, it also maintains paint performance if exposed to low or freezing temperatures.”

Ethylan EF-60 can be used in a broad range of formulations including waterborne latex, architectural paints, adhesives, textile coatings and inks. It also extends open time and improves pigment compatibility.

AB Ghosh, Managing Director Surface Chemistry at Nouryon, added, “Ethylan EF-60 is a testament to our unrivalled expertise and experience in the paint and coatings market. It aligns with increasingly stringent environmental regulations and has already received an

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overwhelmingly positive response from select customers. We look forward to rolling it out to the broader market.”

Nouryon also launched Elotex HD2040, a redispersible polymer powder that will help customers producing dry-mix mortars for the building and construction market to meet the latest quality and sustainability requirements.

Nouryon also recently introduced an innovative multifunctional ingredient for the coatings market, Bermocoll EBM 3000, which optimizes the performance of water-based multicolor paints used on building facades to mimic the appearance of stone or marble.

**Perstorp is Facilitating the Shift to Sustainable Solutions**

Perstorp is committed to facilitating the move to high-performance renewable and more sustainable solutions. The company believes that the progressive global demand from brand owners, consumers and legislation for better and more sustainable coating solutions is now impacting all resin and coating segments. The company announced several new renewable product families and a new service offer designed to support customers to go ‘pro-environmental’.

**Pro-Environment Solutions**

Formulators now have a choice to “go-pro” as Perstorp’s new generation of ISCC PLUS-certified Pro-Environment products provides the same high-performance properties as fossil alternatives but with a much lower carbon footprint. Pioneers with Pro-Environment Polyols consisting of renewable options of Voxtar™ (Penta), Eovyron™ (TMP) and Neeture™ (Neo), the company launched three new polyol product families under the Pro-Environment Solutions banner:

- Charmon™ Pro for intumescent coatings,
- Curalite™ Ox Pro for cationic UV curing,
- Holtac™ Pro for lead-free PVC.

The company also announced that it is increasing the effective annual Penta production capacity at its Bruchhausen/Arnsberg plant in Germany by 12.5%. Penta polyols are widely used in resins for coatings in the building and construction, and steel works industries, from architectural wood to marine paints.

“Our plant has successfully obtained the ISCC PLUS International Sustainability Carbon Certification, an important milestone in Perstorp’s ambitious Pro-Environment quest to become finite material neutral. The expansion work at Site Bruchhausen started in June 2018 and is well on track for completion in May,” confirmed Ulrika Andersson, EVP Business Area Specialty Polyols & Solutions at Perstorp. “The added capacity and ISCC certification of Site Bruchhausen, as well as introducing Voxtar production in Bruchhausen, will significantly extend the security of supply of Vactar, ensuring a continued security to meet our customers’ increased demand of Pro-Environment Polyols.”

Ulrika concluded. Together with the company’s Stenungsund and Perstorp sites in Sweden, Bruchhausen is now a part of Perstorp’s strategic shift from fossil to renewable raw materials and energy.

**Services to Smooth the Transition to Sustainable Performance Coatings**

Perstorp launched a new service offer designed to support customers throughout their business cycle – from initial product need to market implementation and beyond. Looking to support every step of the customer journey, the new service offer has four key focus areas – Insights & Applications, Innovation & Development, Sustainability Support, and Logistics & Secure Supply.

The service is designed to help customers to speed up development, switch smoothly to sustainable solutions, improve productivity, secure the supply of raw materials and lower their total cost of ownership.

**Clariant Offered New Perspective on Sustainability**

Under the theme “Think.Do.Paint! For a New Perspective,” Clariant invited visitors to discover colors and additives developed to help decorative, industrial and automotive coatings make a sustainable difference to the various elements of the urbanization megatrend: homes, buildings, construction, transport and lifestyle products.

In addition, the colors of the future for automotive exteriors are ready to be explored with the launch of Clariant’s new Automotive Styling Shades Trendbook 2021-2023. People from all key industries and end market application areas for paints and coatings were able to discover added value benefits and application design freedom from the wide range of innovative Clariant products available:

- Clariant launched the first bio-based version of iconic Pigment Red 254 – the automotive industry’s most widely used red pigment for exterior coatings. Clariant is the only pigment producer to offer high-performance Diketopyrrolo Pyrrole (DPP) pigments, such as Pigment...
Red 254 and other red, pink and violet shades, based on renewable raw materials.

- Non-halogenated flame retardant Exolit® 855 allows coatings manufacturers to create truly transparent fire- and (in combination with a transparent top coat) water-resistant intumescent coatings for all kinds of wood types, which allow the brilliance of both light and dark woods to shine through.
- For retaining the appearance and quality of exterior woods over the long-term, new Hostavin® 3315 DISP adds the benefit of sustainable, label-free UVA protection to waterborne clear coats and paint systems. The UV absorber has excellent photo-permanence and also high resistance to migration, which helps keep cladding or fencing, for example, in top condition whatever the weather.
- Dispersogen® PLF 100 is an innovative, low-foaming polymer dispersing agent that helps to improve efficiency for paste producers, even when using hard-to-disperse red pigment concentrates. Finished pastes have powerful color strength for “wow” factor bold façade paints that brighten up a city. Plus, its low-foaming qualities carry over to application too. Less micro-foam is created during the painting process, rendering painted surfaces smoother. Moreover, the additive helps pigment pastes maintain their original viscosity levels while in storage for up to two years.

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Chemours’ Flexible Approach to Purchasing TiO₂
The Chemours Company, a global chemistry company with leading market positions in titanium technologies, fluoroproducts and chemical solutions, introduced the Ti-Pure™ Flex online portal, offering a flexible approach for purchasing Ti-Pure brand titanium dioxide (TiO₂).

The online portal is a one-stop shop for doing business with Chemours Titanium Technologies. Using the Flex portal, qualified customers do not need to make a commitment to buy beyond the accepted order. The e-commerce site enables customers to obtain pricing information 24/7 for all the products in the online catalog and to quickly place orders with pricing locked-in for up to six months in advance. They can also use the portal to view their order history or status and obtain invoices.

According to Bryan Snell, President of Chemours Titanium Technologies, the Flex portal is part of the new Ti-Pure Value Stabilization (TVS) customer model that was introduced in late 2017.

“The TVS initiative is intended to give our customers greater control over their long-term business planning and success,” said Snell. “It’s a shared strategy that provides business value for both Chemours and our customers. This commercial model was created in response to customer demands that we reduce the volatility of Ti-Pure pricing and increase the security of supply for their business supply chains to ensure our customers’ growth needs are met,” he added.

TVS offers two customized options for TiO₂ customers to meet their unique needs and market conditions. For customers who value a long-term partnership based on a strong mutual commitment, Chemours offers a Ti-Pure Assured Value Agreement (AVA). This relationship enables Chemours to supply a fixed share of a customer’s titanium dioxide consumption with a predictable, transparent pricing model to enable long-term planning. AVA customers are also provided priority access to the company’s technical expertise and collaboration to help enhance the performance and positioning of their products. The Ti-Pure Flex offering is meant for qualified customers who are interested in a simple, online solution, allowing the purchase of Ti-Pure titanium dioxide products at any time, with a “buy-as-you-need” approach. Flex customers will be able to access Chemours technology expertise on an as-needed basis for an additional fee.

Hexion Launched Technology for Moisture-Curing, Isocyanate-Free, High-Performance Coatings
Hexion Inc. highlighted unique technology based on its VeoVa™ vinyl ester, a Versatic™ Acids & Derivatives product, and silane monomers. Hexion’s technology platform enables the creation of cost-effective, high-performance and isocyanate-free resins. The use of...
ECS Showcases the World’s Advancements in Coatings Technology

Economic vinyl silane monomers deliver a cost-effective coating solution when compared to acrylic- and epoxy polysiloxanes technology.

The versatility and flexibility of the VeoVa silane technology allows customers to tailor their products for the desired end uses. These systems are free of isocyanates, and provide customers the ability to balance hardness and flexibility, pot life and cure speed, while creating paths to deliver similar performance as two-component (2K) polyurethane coatings. Ultimately, VeoVa silane binders can create affordable and high-performance protective solutions for many end markets and applications, such as marine, protective and wood coatings.

“Both Hexion and our partners see this unique technology as a breakthrough in high-performance binders,” said Harold Schweitzer, Vice President and General Manager, Versatic Acids & Derivatives. “The exclusive combination of high-performance, fast-curing development, the absence of isocyanates, and a very friendly cost base explains the enthusiasm of our customers.”

Hexion’s Epoxy Specialties business launched several new products at ECS, which included:
- EPI-REZ™ Resin 7723-W-53 is designed for formulating ultra-low or zero-VOC waterborne coatings to protect concrete or metal. Waterborne epoxy coatings based on EPI-REZ 7723-W-53 offer superior adhesion on various substrates, excellent corrosion and humidity resistance. Faster drying and hardness development are possible at temperatures down to 10 °C.
- EPIKURE™ Curing Agent 8546-W-55 is designed for formulating ultra-low-VOC waterborne coatings to protect concrete or metal. Waterborne epoxy coatings based on EPIKURE 8546-W-55 provide superior adhesion, excellent alkaline, humidity and corrosion resistance. Fast drying and short curing times are achievable at temperatures down to 10 °C.
- EPI-REZ System 4230-W-60 is a one-pack, waterborne epoxy-phenolic Novolac co-dispersion. It does not contain any co-solvents and provides superior performance for baked industrial coatings, that require high chemical and thermal resistance, superior adhesion, film flexibility, toughness and high glass transition temperature (Tg).

Olin Showcased Unique Capabilities

Olin highlighted its offerings for the coatings industry and showcased its unique capabilities in tailoring its epoxy resin products to specific customer needs.

Olin has a broad range of innovative products that focus on providing more sustainable solutions. This sustainability offering can help deliver improved costs for its customers, enhanced performance and increased environmental sustainability. Olin has put a particular emphasis in recent years on products that enable customers to develop environmentally friendly products for coatings and civil engineering applications.

Carlo Spaniol, Business Director Epoxy Products and Commercial Vice President Europe, Middle East, Africa and India, remarked, “Olin is committed to the production of innovative new technologies that contribute to products with sustainable, safe and environmentally friendly alternatives. This is why at the ECS 2019 we focus on innovation which encompasses life cycle costs, enhanced performance, and sustainability for our customers.”

Olin’s comprehensive epoxy portfolio includes resins and hardeners for liquid and powder coating applications that can be used in pioneering areas such as the aerospace, oil and gas, and automotive industries.

Kraton’s Tall Oil Fatty Acid Enables Lasting Quality with Low Environmental Impact

Kraton Corporation, a leading global producer of styrenic block copolymers, specialty polymers and high-value performance products derived from pine wood pulping co-products, presented its innovation portfolio.

Kraton introduced SYLFAT™ 2LC Exp tall oil fatty acid (TOFA). Designed for architectural coating applications, this new product provides high gloss, low initial color and excellent yellowing-in-the-dark performance. These benefits enable alkyd binder and paint formulators to achieve light color and color stability, as well as enhanced scratch and corrosion resistance for longer-lasting aesthetics. The 100% bio-based TOFA offers a significantly lower carbon footprint compared to other vegetable oil-based substitutes currently in use, allowing formulators to significantly reduce carbon dioxide emission. TOFA is also a non-food raw material.

BYK Showcased New Defoamer

Additives for water-based applications were the highlight of BYK’s exhibit. One focal product was the new defoamer emulsion, BYK-1786. The additive removes any micro foam that might appear in the coating with complicated application methods such as spray coating (HVLP), airless and air-
mix applications. This form of delivery enables BYK-1786 to be incorporated more easily and dosed better. It is especially recommended for pigmented and non-pigmented architectural coatings, general industrial, anti-corrosion, wood and furniture coatings, floor coatings, adhesives, sealants, care products and polishes. The additive is VOC- and APEO-free and has no impact on transparency, haze and cratering.

**BASF Presented New Solutions Covering Customer Needs**

BASF experts and specialists from BTC, the European distribution organization of BASF, presented new raw materials for the coatings, paint and construction industries. The broad range of products includes dispersions, resins, additives, light stabilizers, antioxidants, pigments, hardeners, crosslinking agents, reactive diluents and solvents.

**More Durable Waterborne Coatings for White Pigmented Furniture**

Due to the recently launched Joncryl® 95XX resin series, furniture coatings maintain high levels of chemical resistance against aqueous stains, even after 16 hours of exposure (according to DIN 68861-1B); they are also suitable for DIY-applications. Furthermore, Dispex®Ultra PX 4575, a dispersing agent for water-based systems, supports excellent chemical resistance and leads to greatly improved storage stability and anti-sedimentation behavior. For industrial UV applications, where immediate availability of properties is necessary, BASF developed Laromer® UA 9135 Aqua. The UV-curable dispersion is designed for the formulation of highly resistant furniture coatings, fulfilling latest regulations and technical properties.

**Non-Reactive but Highly Protective Industrial Floor Coatings**

The screeds used in industrial buildings such as warehouses and cellars must withstand high levels of abrasion stress. Therefore, they are often coated with epoxy floor coating systems. Now there is a waterborne alternative to conventional reactive systems – the new dispersion — Acronal® 5522 for mineral surface protection combines the required performance with sustainability features.

**Strong Protective Shield for Coating Surfaces**

With regard to many coating applications, customers increasingly require products that combine aesthetics with additional coating functionalities such as improved durability, reduced dirt pick-up and easy-to-clean features. BASF enhanced its Formulation Additives portfolio with a novel concept of coating surface modification. It is based on fluoro-modified block copolymers that crosslink with the binder matrix. The block copolymers align at the top surface layers via self-organization and are fixed in the right place, which leads to improved durability and weathering resistance of the surface as well as additional functionalities such as an easy-to-clean effect.

**Chemical Recycling**

BASF also featured its chemical recycling project, called ChemCycling. Through thermochemical processes, plastic waste is broken down to oil or gaseous products as raw materials for the chemical industry. These raw materials can replace fossil feedstock in the Verbund and be used to produce new products, especially plastics. Through a third-party certified system, BASF can allocate the proportion of recycled resources in each product.

**Coating Resins by Arkema**

Arkema showcased its versatility with a large offer of liquid and powder resins’ solutions including additives. The company has learned with its customers how to adapt its technologies to address the biggest challenges of the industry: performance and competitiveness, climate constraints, health concerns and environmental protection. Its portfolio of products offers formulators the solutions they need to develop the coatings of today and tomorrow across industrial and decorative coatings, as well as pressure-sensitive adhesives, construction products and nonwovens.

Congratulations to Christopher M. Miller, Wenjun Wu and their team at Arkema for winning the 2019 European Coatings Show Award for the best paper of the Conference, “Developing a Deeper Understanding of the Effect of Latex Design Parameters on Final Coating Film Properties.”

**Sun Chemical Introduced New Technology for Powder Coatings**

Sun Chemical’s Performance Pigments and Advanced Materials divisions showcased a full spectrum of pigment and resin technologies, including a groundbreaking new aluminum preparation for powder coatings and new additions to its phthalocyanine blue product line.

**Groundbreaking Advancement for Powder Coatings**

The company’s new Benda Lutz® COMPAL PC aluminum preparations for powder coatings were on display. Developed for dry blending and bonding to deliver excellent appearance and performance, the groundbreaking technology’s pelletized form virtually eliminates dusting to minimize housekeeping, simplifies equipment clean-up and improves worker exposure.

**Expanded Production of Key High-Performance Pigments**

New advancements in high-performance pigment chemistries and an expanded range of color options were also on display, including Palomar Blue 15 248-4848. This high-strength phthalocyanine blue specifically developed for automotive OEM applications is designed to have a highly desirable green flop color in metallic coatings.

The next European Coatings Show will take place from March 23-25, 2021.