EUROPEAN COATINGS SHOW 2017 preview

The Show and Conference Preview — www.european-coatings-show.com — December 2016

"BIGGEST SHOW EVER!"

The success story of the European Coatings Show continues

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The European Coatings Show 2017 is starting a new chapter in its success story: from 4 to 6 April, the international coatings community will meet again at the Nuremberg Exhibition Centre. As usual, the European Coatings Show Conference will begin a day earlier.

The ECS is the leading international show for paints and coatings, adhesives and sealants, and construction chemicals. Besides raw materials for paint, printing inks, sealants and adhesives products, the focus will be on laboratory and production technology, as well as on measuring and testing equipment.

"Preparations for ECS 2017 are underway," says Alexander Mattausch, exhibition director at Messe Nürnberg. "Although sales are still ongoing, we can already announce that 2017 will be the biggest show ever. We are seeing growth from almost every country, for example from the USA, the Netherlands, France, Italy, China, but also from Germany, to name but a few. This development reflects the power and importance of this industry. We are looking forward to a very successful European Coatings Show 2017!"

Amanda Beyer, head of events at Vincentz Network, co-organiser of the show, agrees: "The ongoing growth of the exhibition underlines its status as the world-leading coatings show. While the show promises to become a huge success, the European Coatings Show Conference is also expected to scale new heights with a strong programme comprising almost 200 submissions depicting the latest in coatings technology."

The 2015 show attracted 1,024 exhibitors and almost 28,500 trade visitors of 107 different nationalities. The conference offered 144 presentations, and was spread across 24 sessions. The overview of the latest scientific and research developments attracted more than 700 delegates from 42 countries to the conference halls and once again proved a great success.

www.european-coatings-show.com

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INNOVATIONS

COATINGS TODAY AND TOMORROW

The European Coatings Show Conference allows a peek into the future

The European Coatings Show Conference 2017 will offer a high-class programme filled with over 140 selected technical presentations. The conference takes place from 3-4 April, 2017, in the Nuremberg Convention Center.

Every two years, Nuremberg becomes the place to be for coatings professionals. One of the main reasons to travel to this city in southern Germany is the European Coatings Show Conference, which takes place alongside the show itself. The conference programme will again be divided into 24 sessions spanning a wide variety of topics presented by leading experts from industry and academia.

ALL RELEVANT TOPICS

The sessions will cover such classic coating topics as pigments, powder coatings, water-borne coatings and industrial coatings as well as topics from allied areas, such as printing inks, adhesives & sealants, and construction chemicals. Other sessions will focus on production technology, testing & measurement, and novel materials. There will also be a special session called "Science today – coatings tomorrow" that will give some idea of the future of the coatings industry and will fill you with inspiration.

As always, the conference will start on the Monday, a day ahead of the European Coatings Show. This will give you an opportunity to visit both the conference and the show at your convenience and with enough time to visit both events.

PARALLEL SESSIONS

The conference structure is traditionally based on focused parallel sessions that group the papers around the main themes. This parallel structure enables visitors to rove freely among all sessions.

The most outstanding conference paper will be honoured with the prestigious European Coatings Show Award, sponsored by the European Coatings Journal.

The full conference programme is also available at www.european-coatings-show.com

Conference programme

SUNDAY / 2 APRIL 2017

15.00 – 18.30	Pre-conference tutorials 1-10

MONDAY / 3 APRIL 2017

8.30 – 9.45 h	Plenary session: Welcome address, Conference introduction, European Coatings Show Award, Keynote presentations
10.00 – 13.30 h	Parallel sessions 1-6 Session 1: Science today – coatings tomorrow Session 2: Pigments Session 3: Powder coatings Session 4: Water-borne coatings Session 5: Surface active agents Session 6: Printing inks
13.30 – 14.30 h	Lunch break
14.30 – 18.00 h	Parallel sessions 7-12 Session 7: Production technology Session 8: Functional coatings Session 9: Façade paints Session 10: 2k industrial coatings Session 11: Anti-microbial coatings Session 12: Radiation curing
18.00 – 19.30 h	After work reception

TUESDAY / 4 APRIL 2017

9.00 – 12.30 h	Parallel sessions 13-18 Session 13: Adhesives & sealants Session 14: Construction chemicals I Session 15: Polyurethanes I Session 16: Protective coatings Session 17: Testing & measuring Session 18: Architectual coatings
12.30 – 13.30 h	Lunch break
13.30 – 17.00 h	Parallel sessions 19-24 Session 19: Novel materials Session 20: Construction chemicals II Session 21: Polyurethanes II Session 22: Protective coatings II Session 23: Testing & measuring II Session 24: Bio-based coatings

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COATINGS TRENDS

"REPUTABLE INDUSTRY STANDARDS ARE NEEDED TO PROVIDE AN OBJECTIVE MEASURE OF EFFECTIVENESS"

Demand for sustainable and functional products is set to increase further

Growing awareness of health and environment issues is driving the demand for eco-friendly paints and coatings, says Dr Peter Venturini, CTO of Helios. The need for more sustainable products will remain a key trend for our industry. Dr Emile Trottier, RD&I Director at Akzo Nobel Performance Additives, shares this view, but he also believes that water-borne or bio-based systems have not lived up to expectations in terms of market penetration, despite investments made in new technologies. The industry needs to address these issues.

What are the current trends in coatings technology?

Venturini: Trends in coating industry are affected by the growing awareness of the importance of people's health and a clean environment as well as higher expectations about the properties of a coating. Coatings are being developed with new functionalities – they are getting "smarter", but also more efficient in terms of protection, economical and endurable. Paints and coating formulations are changing as a result, and components which are harmful to the environment are being replaced in all products by others which are acceptable to people and the environment. I believe that one of the greatest aims in our industry is also to cut back on all the various resources that are needed throughout a coating's life cycle, from production and application to decommissioning.

We see these trends currently manifesting themselves in different ways: ecological standards and recommendations are becoming more rigorous, and there is also a growing demand for water-borne coatings, fewer layers of coatings and coatings with improved specific features. Powder coatings are a very highly promising product programme because no organic solvents are involved. We also note that demand for bio programmes for wood coatings has grown. Eco-friendliness is becoming more prevalent with every passing day.

Dr Peter Venturini, Helios Group

Trottier: Looking at the architectural paints market, it is fair to say that, although overall trends and needs have not changed in recent years, the number and variety of technologies developed and introduced to address those needs have increased significantly. The last 10 years have seen important developments in the area of self-cleaning and self-healing paints; inroads have also been made in paints and coatings which improve both heat and sound insulation. Sustainability is, of course, ever-present in all new technology developments. Consequently, the drive towards water-borne will continue, as will the need to reduce energy consumption at all points in the paint-making process and to make increased use of bio-based raw materials. Despite the investments which have been made in new technologies, however, the disappointing fact for many in the industry has been that major product launches have failed to live up to expectations in terms of market penetration. Part of the reason for this remains the lack of reputable industry standards which provide end-users with an objective measure of the effectiveness of the functionality claimed for new technologies. If we as an industry can manage to address this issue successfully, it will enhance our credibility, boost end-user confidence, and in so doing accelerate the acceptance and penetration of many important new product developments.

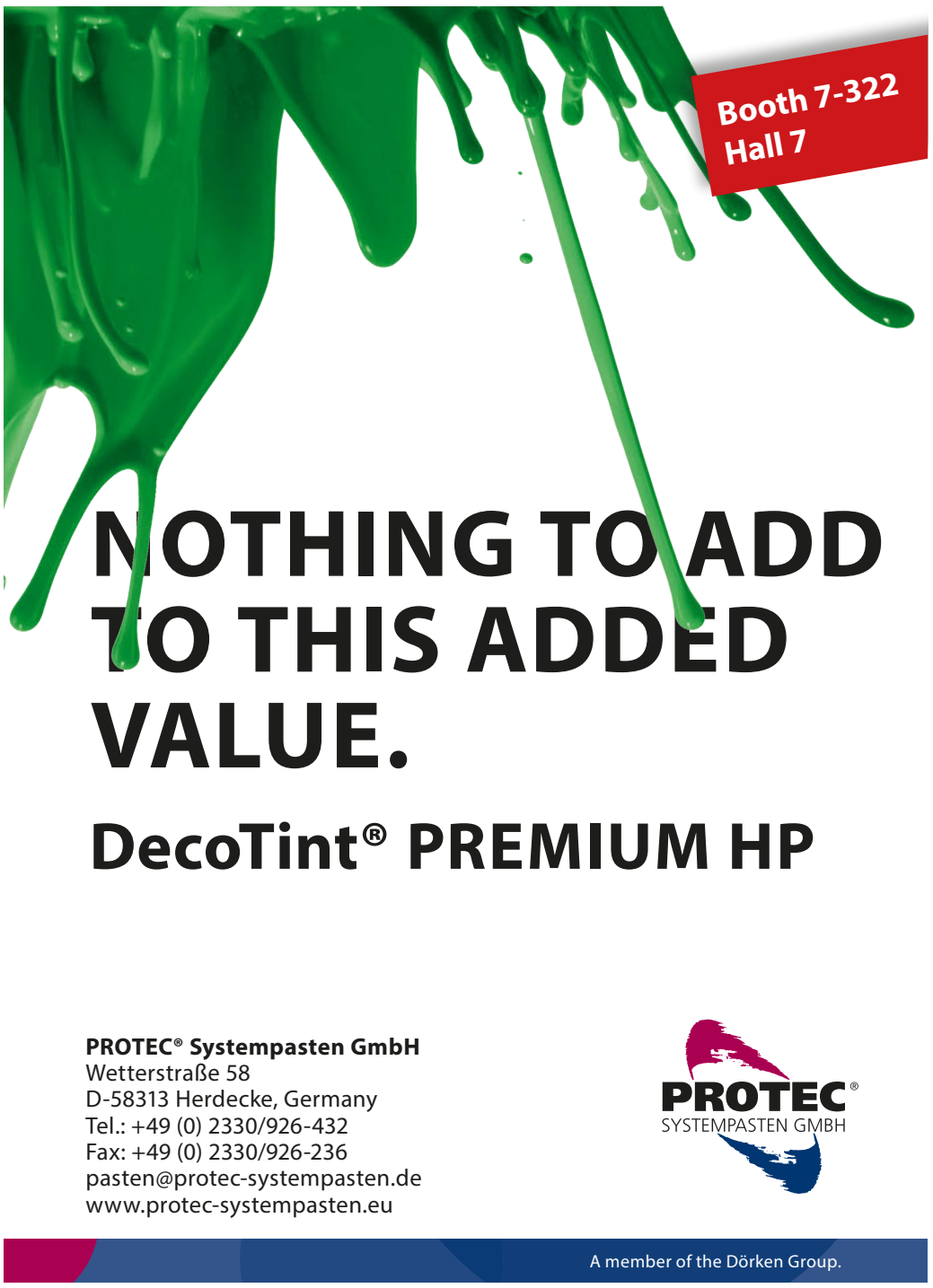
What will be of interest for you at the ECS 2017?

Venturini: As the European Coatings Show is the world's biggest trade fair for the paint and coatings industry, it also acts as a huge knowledge transfer platform, where we can obtain important, up-to-date information on future developments. It is a great opportunity for different suppliers to meet in person to discuss new trends, the latest technologies and some challenges, too. It will be interesting to see the progress that has been made on raw materials as well as the latest production, analytical and testing technology.

The Conference part, too, is fascinating because it brings together the top scientists and R&D experts in the coatings industry. This year I will be actively attending the conference to present the latest findings on the production of coatings made with raw materials from biological sources. All the trends indicate that a close eye should be kept on the use of renewable or biological sources in the coatings industry.

Trottier: The ECS is always a wonderful forum for meeting representatives from companies large and small that operate along the whole value chain. Performance Additives has made great progress in recent years, benefiting from new partnerships that have emerged from contacts made at events like the ECS. As a business, we have benefited enormously (as have our partners) from synergies arising from a policy of open innovation and cooperation. Today, Performance Additives is still pro-actively seeking out new joint ventures with progressive companies operating in areas which we view as being strategic to our business (e.g. sustainability). Similarly, we are very active in a number of industry consortia – drawn from companies across the whole value chain – working on projects looking at process streamlining (i.e. taking the cost out of paint making and accelerating time-to-market of new technology) and we are seeking to fund long-term work with our strategic universities on enhancing our understanding of the structure/property relationships of cellulose ethers or redispersible polymer powders with the aim of enabling us to maintain our position in product development.

Dr Emile Trottier, Akzo Nobel Performance Additives



PRE-CONFERENCE TUTORIALS

GET UP TO SPEED

A day before the conference, ten tutorials will close knowledge gaps

A day ahead of the European Coatings Show Conference a number of pre-conference tutorials will give you the opportunity to cover the basics.

The conference programme will open with ten tutorials on Sunday, whose purpose is to deal with the basics of major coatings technology. They will help you especially if you are new to the industry or if you want to widen your knowledge in a neighboring area of expertise.

The following topics will be covered: basics of architectural coatings, polyurethane coatings, formulating adhesives and sealants; basics of anticorrosion coatings; understanding biocides and the latest regulations; dispersing pigments and fillers; functional coatings; radiation curing; epoxy coatings and environmentally benign coatings.

Source: Picture Factory/Fotolia

The tutorials will cover the basics of major coatings technologies.

All lecturers of the conference will be selected professionals from well-respected organisations like Dow France, Fraunhofer IFAM, Huntsman Advanced Materials or Evonik.

The tutorials will be completed by a networking event in the evening that will give you the opportunity to connect and network with other experts from the industry.

Please note: The pre-conference tutorials and the main conference are two separate events that require individual registration.

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BREAKING THE RECORD...

Nearly 900 exhibitors are already registered and more than 1,000 are expected. The European Coatings Show 2017 will become the largest one in its history. Again exhibitors from around the world will be gathering in Nuremberg. Currently there are registrations from 45 countries (2015: 42) and every continent will be found at the show, making the ECS 2017 the most international coatings show one could possibly imagine.

45
and more countries: Exhibitors from all around the globe will be at the ECS

35,500
m² of booked exhibitor area in total

41 m²
stand area per exhibitor in average

504 m²
is the area of the biggest stand

309
exhibitors are listed in the category "additives for coatings", 229 in "additives for printing inks" and 216 in "additives for adhesives"

Top 5
countries represented: Germany, China, Italy, The Netherlands, Great Britain

264
exhibitors are listed in the category "binders for coatings", 172 in "binders for printing inks" and 96 in "binders for construction chemicals"

Numbers as of 28 November, 2016.
The current list of exhibitors can be found at
www.european-coatings-show.com/shownavigator

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TRENDS IN PRINTING

"DISRUPTIVE IMPACT OF DIGITAL MEDIA"

Printing inks industry faced with decline in publication print and more stringent legislation

Dr Rüdiger Baur, Head of Global Technical Marketing Non-Impact Printing (NIP), and Dr Chris Patterson, Head of Global Technical and Strategic Marketing Printing at Clariant business unit pigments describe trends in the printing inks industry

Dr Rüdiger Baur
Clariant

> "The rise of digital media has had an enormous negative economic impact on the traditional printing industry."

How do you rate the development of digital printing?

The rise of digital media has had an enormous negative economic impact on the traditional printing industry, particularly in the commercial sector, where ink manufacturers are witnessing contraction of print volumes (cold-set/ publication gravure), ongoing consolidation of their customer base, relocation of commercial business to lower-cost economies and increased competition in the packaging sector, as ink vendors reposition their product portfolios. As a consequence, we are seeing companies increasingly move up and down the value chain and divesting assets no longer considered core to their business strategy. We also expect to see continued acquisitions of mid-tier companies in packaging and dispersion arenas, both in the established and emerging economies, as companies look to grow or consolidate existing positions. Growth in BRIC and MINT economies – the number of middle class consumers in the BRIC and MINT economies is forecast to grow by 3 billion by 2020. Consumer-driven businesses are pivoting towards those markets which their supply chain must follow. If they don't, they'll stagnate.

Governmental health and safety legislation efforts are becoming increasingly stringent and more harmonised on a global level as a means to further improve product safety compliance in an increasingly global economy, e.g. Swiss Ordinance. In response to these supra-national legislative demands and their support by major brand owners, ink companies are pushing to centralise and tighten their product validation, procurement, codification and certification procedures. It will also help drive globalisation of ink technology platforms for ensuring that end-users receive consistent compliant technology. The drive for sustainable solutions is pushing companies all along the value chain to innovate. Some more recent examples include the introduction of new substrates such as PEF, which is an analogue of PET, but offers better barrier characteristics. New barrier technologies using atomic layer deposition allow SiO_2, ZnO, Al_2O_3 to be used as coatings. Increased use of bio-based materials in areas typically reliant on hydrocarbon-based technologies, e.g. the introduction of quinacridone pigments that contain 32 % of material derived from corn.

What about "green printing"?

The demand for green printing will continue to grow due to the rising sensitivity of consumers – even in emerging markets. Besides compliance with specific mandatory regulations, the use of sustainable technologies as well as cradle-to-grave concepts will put more pressure on the members of the printed article value chain.

Both WB and UV technologies are well established in the more traditional print economies, but they never realised the hype of replacing older technologies that were perceived as less environmentally friendly. Recent developments driven by the need to offer more sustainable products or processes, such as the introduction of LED curing for UV systems, general bio-based chemistries in resins, pigments and additives, or renewed interest in more functional aqueous latices or dispersions e.g. polyurethane, EVA, are all helping to drive renewed interest and growth in these chemistries.

Dr Chris Patterson
Clariant

As the trade show Drupa 2016 has already shown in a very impressive way, digital printing has improved significantly in quality, reliability and costs. We expect that digital production printing (packaging, transactional printing, magazines,) as well as the graphics sector (photo books) will grow at a rate significantly above GDP (2 digits). Mature digital printing markets like SoHo (small office/home office) will decline or are expected to grow on a par with GDP for professional use (for MFPs in industrial offices). Technology-wise, the growing area of industrial digital printing will be driven by water-borne inkjet and liquid-toner technologies.

TRENDS AND RESEARCH

"MICROBIOLOGICAL PROTECTION OF WATER-BORNE COATINGS HAS BECOME CRITICAL"

Usage of renewable raw materials will increase, but challenges still lie ahead

Cor van Rossum, Elementis

Water-borne solutions are often desirable and necessary. However, in certain weather conditions, these coatings fail to match the performance of their solvent-borne counterparts in outdoor applications. Cor van Rossum, Marketing Director Coatings EMEA at Elementis Specialties, says innovation is urgently required.

Water-borne raw materials are highly diverse. Where do you see the need for improvements?
Formulation simplification is paramount – this also applies to widely acknowledged, desirable improvements in extended open time and maximised hiding. Formulators are looking to streamline the raw materials inventory. Different materials within the same class of ingredients are needed because optimisation of one property often leads to degradation of another. For example, the use of surfactants to control interfacial tension and enhance wetting often gives rise to foaming issues. Defoamers are then required, and wrong selection here can lead to surface defects. Hence, it is essential that universal grades be developed. Further to this, in many outdoor applications, water-borne paints still fail to rival the durability and protection level of solvent-borne alternatives, especially in extreme weather conditions. Here, the industry is taking its responsibility to replace the solvents with water seriously, but innovation is urgently required.

What are the major challenges in developing VOC-free, water-borne paints and coatings?
We prefer to talk about 'low VOC'. Two issues come to mind: major challenges with measuring VOC, and VOC legislation that impacts on final coatings. There is a sore need for methods which can be applied to both the ingredients and the fully formulated coatings if VOC claims are to be wholly credible. Closer partnerships between manufacturers and formulators enable a better understanding of the targeted emission standards and minimize the reformulation time. The second issue concerns coatings and raw materials with a low VOC, especially when based on renewable raw materials, which are more sensitive to microbiological attack. Given present trends to decrease or prohibit the use of today's preservatives in some areas, and because high registration costs for new substances are a barrier to the development of alternatives, microbiological protection of water-borne coatings has become critical.

Where do you see the most promising research in the field of water-borne coatings?
There will be greater use of renewable or bio-borne materials. For example, the "good old alkyd" is undergoing a revival in alkyd emulsion paints. Consequently, a wide range of additives will be required for new alkyd emulsions. This trend is also being driven by growing awareness and desire on the part of the consuming public to use more alternatives that are friendlier in terms of health, safety and the environment. That said, coatings performance will always remain the top-priority and compromises will not be readily accepted. For that reason, we are also continually working on developing new additives that will help to reproduce the desired application behaviour. Our developments are focused on boosting the efficiency of the rheological modifiers or other additives in the formulation while also maximising the value for money by reducing the complexity of the production processes and minimising undesirable side effects. At last, less is more.

Source: Jim Barber/Fotolia

ALTERNATIVES

"POTENTIAL HEALTH RISK"

Compounds based on manganese or iron can replace cobalt

Liz Manning, Catexel

As recent studies have identified cobalt salts as a potential health risk, paint companies are looking for alternatives. Compounds based on manganese or iron offer safe, effective, sustainable solutions for the drying of alkyd paints, says Liz Manning, business development manager at Catexel.

Why is the use of cobalt so critical? What's the status quo in terms of regulation?
Alkyd-based paint systems represent ca. 20 % of the coatings market. Alkyd resins require oxidative driers to initiate curing and cobalt soaps are the typical primary drier. Recent studies have identified Co salts as a potential health risk; the cobalt REACH consortium has now self-classified 12 substances as reprotoxic. A dossier from Dutch authorities found Co and Co-compounds to be carcinogenic and reprotoxic. The US NTP also concluded that certain Co compounds can be reasonably anticipated to be human carcinogens. No formal decisions have been made.

What alternatives exist to replace cobalt in driers for alkyd-based paints?
Several cobalt substitution strategies have been investigated. Compounds based on manganese or iron can replace Co, in terms of both performance and toxicology. Catexel, then operating as Rahu Catalytics, recognised that an Fe based compound efficiently decomposed food stains via the same mechanism as alkyd curing. The first commercial compound was purchased by OM Group in 2012. We went on to develop several alternative compounds based on Mn and Fe, which offer safe, effective, sustainable solutions for the drying of alkyd paints.

What challenges still have to be overcome?
Years of development have tailored systems to optimise the performance of cobalt. Such development work with manganese and iron based compounds has only just begun. They show effective drying at much lower inclusion rates than cobalt and, in many cases, comparable cost in use. As with all reformulation work, challenges remain with regards to optimised performance but commercial use and continuing development has demonstrated the technical and commercial viability of a wide range of new materials.

Source: Catexel

EFFICIENCY IN PRODUCTION

"STANDARD PRACTICE FOR DECADES"

Major factors in production technology are raising efficiency and the need to meet the high requirements imposed on quality

Hartmut Quade,
Ingenieurbüro Quade GmbH

Hartmut Quade expands on the latest trends in production technology. The managing director of Ingenieurbüro Quade GmbH also shares his views on Industry 4.0 and the importance of rules and regulations for the field.

What are the latest trends in plant construction and production technology?
Major factors are the need to meet the high requirements imposed on quality and to achieve the highest-possible level of efficiency. Another important aspect is the decline in batch production. The trend here is shifting in favour of automation. We are also seeing a trend towards modular design. This is partly in anticipation of meeting larger vol-umes in the future and partly to be able to cover a growing product portfolio.

To what extent is the field impacted by rules and regulations?
Laws and regulations have a great influence on the construction of plants in the chemical field. Open dialogue with authorities and expert committees is therefore extremely important. They need to be brought on board in good time if objectives are to be achieved. Environmental protection and safety now come high on the list of priorities, and regulations are key supports for avoiding personal injury and damage to the environment. In my opinion, there is now the know-how available and the will to implement the specifications in full.

"Smart Factories" and "Industry 4.0" (digitisation) are popular buzzwords – to what extent are these developments noticeable in practice?
I have a very dispassionate view of the term digitisation. For us as a plant designer, this idea has been around – and been implemented – for more than ten years. Companies have been using database information ever since the advent of control engineering. So, really, digitisation is not so new and I'm surprised that so many committees are being set up, to deal with each other, as it were. Also, due to globalisation, the knowledge possessed by individual manufacturers and dealers has become extremely important, so that barriers are essential for preventing that know-how from leaking out. Finally, "Industry 4.0" is an abstract term which is used exclusively in Germany.

Source: Andrei Merkulov- Fotolia

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Gisela Gehrenkemper, Editor European Coatings Library

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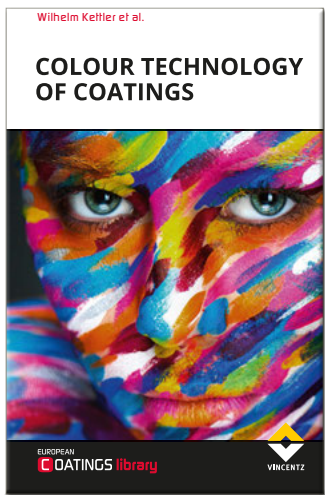
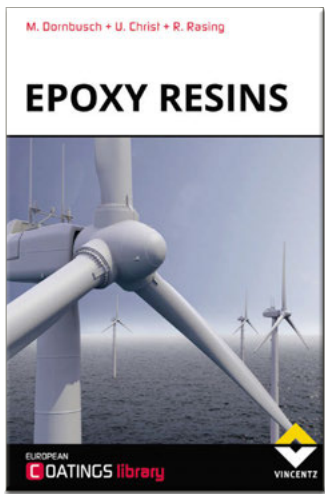


COLOUR TECHNOLOGY OF COATINGS

By Wilhelm Keller et al.

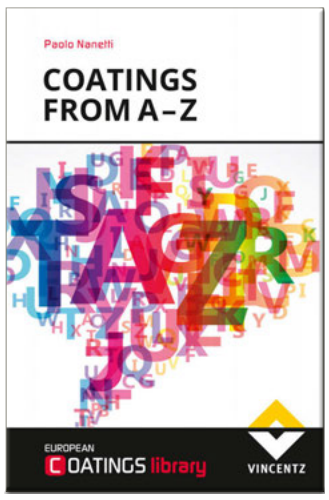
Gain the latest knowledge about the colour technology of coatings in a single book – from the fundamentals of colour perception, to colour measurement and colour-order systems, through to the characterisation and practical application of pigments. The authors provide a comprehensive overview of the state of the art in industrial colour applications and illustrate the various methods of elementary and advanced colorimetry in detail. An excellent introduction for the ambitious expert to the field of colour technology.



EPOXY RESINS

By Michael Dornbusch, Ulrich Christ and Rob Rasing

Thanks to their excellent characteristics, epoxy resins are among the most established binders in the coatings industry. This new book explains the basic principles of the chemistry of the epoxy group and explains the use of epoxy and phenoxy resins in industrial coatings, such as anticorrosive coatings, floor coatings, powder coatings and can coatings, with the help of specific formulations. Essential for any formulator of competitive modern paint systems!



COATINGS FROM A – Z

2nd revised edition
By Paolo Nanetti

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CURRENT DEVELOPMENTS

"SOLVENT-BORNE – A NO-GO IN MANY APPLICATIONS"

Rising performance and environmental demands on adhesives

Dr Christine Wagner, Wacker Polymers

Lidia Miszke, Wacker Silicones

Nowadays, adhesives have to meet a multitude of requirements: bond challenging surfaces, offer a broad range of applications, address environmental and safety concerns. Dr Christine Wagner, Senior Manager Commercial Marketing for Dispersions, Market Segment Adhesives, at Wacker Polymers, and Lidia Miszke, Senior Marketing Manager Construction Sealants & Adhesives at Wacker Silicones, comment on current developments within the industry.

What are the current application trends in adhesives technology?

Wagner: Performance requirements are growing: adhesives must now reliably bond even challenging surfaces while offering a broad application profile. From a competition point of view, total cost in use is crucial and makes properties such as good machine running or a rapid increase in adhesive strength essential.

Miszke: We envisage even greater use of adhesives as substitutes for mechanical fastenings. One challenge here is the multitude of differing substrates. Nowadays, adhesives have to reliably bond dissimilar materials. For example, car manufacturers often use different alloys in automotive assembly to reduce vehicle weight. These alloys are extremely difficult to bond with existing adhesives.

Which developments in adhesives raw materials do you consider especially promising?

Miszke: Without doubt, silane-modified polymers, or SMPs, have emerged as one of the leading trends in adhesives technology. SMPs can adhere to difficult substrates and, where needed, provide the requisite high bonding strength. Several industries, such as construction, now prefer SMP-based systems. They offer superior adhesion on many building substrates. What's more, they do not cause substrate staining, which is a major disadvantage of conventional technologies. Moreover, EH&S issues also require a rethink when it comes to the choice of adhesive. Today, solvent-borne systems have become a no-go in many applications. Take the parquet-flooring industry as an example. SMP-based adhesives are the preferred system there for high-performance parquet adhesives.

Wagner: Yes, we are definitely seeing a strong trend in favour of eco-friendly solutions. We are addressing this by developing dispersions, for example, that support very-low formaldehyde binders for paper and packaging or wood glues.

Where do you see further potential for adhesives applications?

Miszke: The industrial sector, too, is warming more and more to the idea of SMP-based adhesives. Assembly adhesives using SMP technology provide elastic, yet strong bonds in the automotive and container design sectors. Such compounds also obviate the need for primers, speed up the workflow and cut production costs, and thus increase the overall economics of production.

Wagner: Generally speaking, global use of adhesives is growing across a swathe of diverse industries, from construction to packaging. And whatever the application, the choice of binders plays a key role – so we see great further potential for our dispersions.

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CHALLENGES

"CORROSION PROTECTION IS AND WILL REMAIN THE KEY"

Current trends for protective coatings are efficiency and sustainability

Maximilian Bendix,
BASF Coatings division

Corrosion protection is one of the most important features for coatings. We spoke with Maximilian Bendix of BASF about the current challenges and trends for protective coatings in the automotive sector.

Corrosion protection alone is not always enough. Customers often want further functionalities. Are there any new developments that will play a important role here in the coming years?
Maximilian Bendix: Corrosion protection is and will remain the key to cathodic dip coating. We are seeing new challenges in the form of the growing share of multi-metal car bodies and equally the growing share of thin film pretreatment as an alternative to traditional zinc phosphating. New developments are bound to keep coming from this direction in the future. From our point of view, we are extremely well equipped to deal with this thanks to our current technology.

Do you believe that the layer thickness can be further reduced without any adverse effect on the protective performance?
One layer thickness is not like another. Due to the different requirements imposed by the automotive industry, our current technologies already cover a wide range of coating thicknesses, while maintaining excellent corrosion protection. We see reduced consumption as being the driver here. This can also be achieved by means of a uniform layer thickness distribution on the multi-metal body, as we have already shown in the market.

Corrosion protection paints, too, need to become even more environmentally friendly. Where do you see the greatest challenges here?
Our current technologies for automotive OEM and tier market are playing a big role by eliminating the use of heavy metal and tin. Overall, a holistic approach is important when it comes to conserving resources in production and application. The challenge will continue to be finding the right balance between environmental friendliness and performance (corrosion protection), including under changing conditions such as thin film pretreatment and new substrates.

TRENDS AND DEVELOPMENTS

"MARINE PAINTS: WB 2K EPOXY SYSTEMS WILL GROW"

Transition to water-borne coatings will start with specific applications

Francoise Heine,
Hexion

Even though solvent-borne systems are probably the easiest option when it comes to meeting requirements on corrosion protection and application issues, their high VOC levels remain problematic. Francoise Heine, Market Development Manager Coatings at Hexion, expects to see more water-borne systems in this area.

What are the challenges facing formulators and raw material suppliers with regard to marine coatings?
Marine coating is a very specific segment, with unique challenges. It requires very high corrosion protection due to the salt water environment and involves application under difficult and often uncontrolled temperature and humidity conditions. The systems must be very robust, be high performers and be relatively low cost. This simply means that solvent-borne systems are probably the easiest option, except for the associated high VOC levels. The challenge here is to reduce those emissions while maintaining the performance level at a similar cost. Raw materials suppliers need to develop robust solutions that will help formulators to comply with and meet all these requirements. Formulators will need to cooperate with raw materials suppliers on developing the next generation of low-VOC marine paints.

How do you rate the potential of water-based systems to increase their share in marine coatings?
Water-borne two-component epoxy systems will definitely grow in the marine coatings segment, but this is likely to occur at a slower rate than in other applications which allow more controlled cure conditions. It should be emphasized that water-borne epoxy systems already offer C4-C5 corrosion resistance performance levels. The current limitations only concern application and cure temperatures below 5°C and/or 100% relative humidity. Water-borne systems will therefore definitely be in a position to compete with high-solids solutions. The transition to water-borne coatings in the marine industry will start with specific applications, such as confined spaces, like the engine room, and deck coatings or shop primers.

Are there any other current developments and trends in marine coatings?
Performance and application issues are being addressed by specific developments aimed at providing tailored solutions. Sustainability and environmentally friendly systems are attracting more and more interest and can be considered a general trend. Marine coating is also specific in the sense that nowadays substantial amounts of VOCs are released into the environment and the material itself remains in contact with a fragile marine environment. Again, water-borne systems offer a solution for some of these challenges.

VOICES

NEWS AND NOVELTIES

Exhibitors on expected trends and their focus on the ECS

What will be the trends at the European Coatings Show? We asked exhibitors to answer the following questions:

Questions:
1. **What trends are you expecting for the European Coatings Show?**
2. **What novelties will your company be presenting?**

Markus Dimmers, Alberdingk Boley

1. *We will certainly see new or modified products that will address upcoming changes in legislation. In particular, preservatives for water-borne coatings will be a major discussion item in terms of compliance with the new legislation in 2018.*

2. *We will be showing products that again will help to improve resistance properties in many areas, such as wood coatings, paints, etc. We will also have new inherently matt polymers for various applications, and we will also doing a major launch of new products in the architectural market. For ECS 2017, we are putting together a comprehensive offering for all the coating markets we serve.*

Stephan Spiegelhauer, Lanxess

1. *The megatrend of urbanisation continues to stimulate demand for high-quality, sustainably produced paints and coatings throughout the world. At ECS 2017, and especially during the European Coatings Conference, I am therefore expecting the focus to be on innovative raw materials, formulation, and application technologies for manufacturing end products that meet these needs. Furthermore, it will be interesting to see how exhibitors approach and implement the trend towards ‚functional coatings', e.g. the latest innovations and the results of research into smart materials that offer self-repair, colorizing and corrosion resistance.*

2. *At ECS 2017, Lanxess will showcase the latest innovations from its diversified product range comprising colorants, biocides, flame-retardant additives, benzyl products and iron oxide pigments. In its "New Red" pigments, Lanxess' Inorganic Pigments business unit will present a new generation of iron oxide pigments based on a newly developed production method. The „Ningbo process". In addition to highly sustainable production, the „Ningbo process" yields iron oxide red pigments whose exceptional colouristic behaviour far exceeds any iron oxide pigment currently available on the market. Furthermore, the pigments have the ability to be incorporated at high loadings, without affecting the viscosity.*

Dr Hans Ridderikhoff, Croda

1. *We recognise that the trend towards sustainable, low-VOC and water-borne coatings is still strong, and that now there will also be greater focus on developments aimed at multifunctional smart coatings. For instance, we have experienced growing interest in our "Maxemul" solutions for resin emulsification, not only for alkyds but increasingly for epoxies for protective coating applications. Traditionally, the protective segment has relied on high levels of solvents to confer optimized corrosion protection. Likewise, there is growing interest in reactive surfactant systems that support acrylic latex paints for direct-to-metal applications; the fact that surfactants will not migrate to the surface of the applied film makes the coating much more water repellent. Bio-based coatings are still desirable, but only if performance is not compromised in any way or, or even better, if additional benefits can be demonstrated. For example, we have found ways to improve traditional PUD coatings with our "Priplas XL" polyols that yield better scratch resistance on wooden flooring combined with improved stain resistance to wine, coffee, and water.*
In the field of smart coatings, we are investigating a new technology which yields very interesting self-healing effects and which we will present at the conference. We will also be highlighting our novel technology for anti-microbial coatings.

2. *We will be presenting a new and durable technology for anti-microbial coatings that does not involve the active release of biocides! These coatings are frequently used in highly humid applications, such as exterior wall paints, food production, health institutes and sanitary environments. The disadvantage of current antimicrobial paints is that the toxic biocides will sooner or later be released into the environment and hence that the antimicrobial activity will decrease over time. The new Biocide Product Regulation (BPR) has imposed much stricter requirements on these type of coatings with a view to affording greater protection for humans and the environment. The concept is built around a new polymer technology that is designed to be incorporated into the coating, creating an active, anti-microbial surface where it intrinsically confers long-lasting protection. We call this technology "MyCroFence", as it creates a physical barrier, a kind of fence, that prevents the growth of microbes. We have been able to demonstrate its efficacy against a very wide range of microbes, such as bacteria, fungi, moulds and algae. An additional benefit of this concept is that the microbes will be unable to develop any (microbial) resistance.*

> „The trend towards sustainable, low-VOC is still strong."
>
> Dr Hans Ridderikhoff

Dr Martin Liebenau, Biesterfeld Spezialchemie

1. *We expect to see a trend towards additives and raw materials that offer a high intrinsic value and help manufacturers to create new, innovative formulations or to improve existing ones. Such products will be needed for supporting the ongoing shift from solvent-borne to water-borne, and towards the growing segment of reactive systems, such as PURs, EPs and even STPs. There is a need here for solutions in respect of surface quality, UV and thermal stability, resistance, applicability, rheology control and open time. However, all products need to comply with current regulations related to REACH (SVHC-free), EH&S classifications, VOC reduction, etc. Critical products and chemistries will no longer be considered by formulators and will even be replaced.*

2. *As one of the leading distributors of specialty additives and selected raw materials in Europe, we are focusing on presenting the latest innovations and products from our suppliers to the coatings, inks, adhesives and sealants, construction and civil engineering market. The European Coatings Show allows us to discuss ideas with our customers on how to arrive at the best technical and cost-in-use solutions. At the same time we use this event to intensify the relationship to our existing principals and to apply and meet new suppliers that are looking for a specialised distributor to the coatings market in Europe. At ECS 2017 we will not only concentrate on the regions of DACH and CEE in this respect but specifically introduce our capabilities in Spain, Italy, France and Turkey.*

Frédéric Taché, Sartomer

1. *UV curing, which today is a major industrial technology, is offering unrivalled benefits to printing inks and coatings. At the upcoming 2017 European Coatings Show, this industry shall provide recommendations for increased mechanical performance, durability and adhesion. New visual or sensorial effects are also key drivers for energy curing in both current and future developments. Furthermore, we expect to see growing interest in UV LED and UV EB curing technologies, as well as a sustainable and compliant formulation approach from the market players guided by influential brand owners recommendations.*

2. *Sartomer, as a leader in the supply of specialty acrylates for energy curing applications, will showcase solutions for plastic coatings and more particularly automotive uses, to face more stringent requirements on durability. We will have a focus on adhesion: recent developments targeting industrial coatings on thermoplastics and glass as well as specific new grades for offset printing inks*
Most recent recommendations for UV LED systems in both coatings and printing inks areas. Also in the focus is regulatory compliance with new products to replace BPAs, as well as a new offering for the booming indirect food packaging applications. We will also present a performing resin offer for dual cure systems, which combines radiation and chemical curing (1K or 2K), to enhance shadow areas curing, compatibility or adhesion. Finally at ECS we will launch „N3xtDimension", Sartomer's new generation of solutions for UV curable 3D printing.

EXHIBITOR EXPECTATIONS

"THE ECS IS A UNIQUE EVENT TO ENGAGE WITH OUR CUSTOMERS"

Exhibitors talk about their plans and expectations for the upcoming ECS

There are many good reasons to attend and exhibit at the European Coatings Show. We spoke to three exhibitors about their reasons and what they want to show to the international coatings industry.

Questions:

1 ***Please describe your company in a few words. How is your enterprise related to the paints and coatings industry?***

2 ***What products will your company present in Nuremberg?***

3 ***What are you looking forward to doing/seeing at the ECS?***

Laura Willemsen,
Croda Coatings & Polymers

1 *Croda is the name behind the high performance ingredients and technologies in some of the biggest, most successful industrial and consumer brands. We innovate for niche segments within coatings, adhesives and sealants which are constantly seeking higher performing and differentiated ingredients to improve quality of daily life.*

2 *We will launch a durable antimicrobial coating technology and showcase low/non VOC solutions to formulate high performing acrylic, alkyd, epoxy and polyurethane coatings.*
For adhesives we present solutions for strong and light-weight transport materials and ingredients that provide electronics like smart phones with improved scratch and water resistance.

3 *ECS is a unique event to engage with our customers and learn about trends and innovations. It offers the opportunity to present the benefits our speciality additives, bio-based building blocks and surfactants bring in customer formulations. After all our ambition is to meet the ever-evolving needs of demanding and environmentally conscious consumers.*

1 *BASF develops and produces high-quality resins, dispersions, pigments and additives for paints and surface coatings and construction chemicals, and sells them to customers all around the world. Thanks to our high-performance products and the breadth of our knowledge in this sector, we can help customers to develop their products and processes further and to reach their sustainability goals.*

2 *We will be presenting innovative solutions for applications across the various segments of the coatings industry. One example is Acronal Pro 7600, a new dispersion that provides light-to-medium duty corrosion protection for metal coatings.*

3 *For me, the ECS is all about talking to numerous customers and partners about current challenges in the market. I'm looking forward again to the new ideas that will emerge from discussions on how best to overcome these challenges. Equally as important to me are the presentations at the Show, because they provide an overview of novelties in the market.*

Rolf Alles,
BASF

UNIVERSITIES AND INSTITUTES

ACADEMIA MEETS BUSINESS

The academic sector will be present at ECS quite prominently

The European Coatings Show 2017 will see a large number of universities and institutes seeking to collaborate with industry.

Among the universities coming to this year's event will be The University of Paderborn, The School of Polymers and High Performance Materials (University of Southern Mississippi), The University of Esslingen, the Institute for Wood Technology in Dresden, the ChemQuest Technology Institute, the Fraunhofer Institutes for Manufacturing Technology and Applied Materials Research (IFAM) and the Fraunhofer Institute for Silicate Research (ISC).
The University of Paderborn will be presenting its working group „Coatings, Materials and Polymers". This focuses on the synthesis of polymers, particles and hybrid systems, which are used both for coatings and for various materials. The industrial process known as „coatings" (raw material development and functionalisation) will be considered in all its mutual dependencies.
The Fraunhofer ISC from Würzburg is not unknown to the industry either. The Institute develops coating materials to customers' requirements and specifications profile. Applications include biodegradable barrier coatings for food, cosmetics and drug packaging, scratch-resistant coatings for plastics, optical scattering layers, smart shading technology for architectural and automotive glazing as well as dust-repellent surface coatings for glass, ceramics and metal. In addition to materials development, the Fraunhofer ISC is concerned with quality assurance and the analysis of coatings.
The second Fraunhofer Institute, IFAM from Bremen, is no stranger to the ECS. The Institute has recently been causing a stir with its work on functional coatings.

ALL ABOUT WOOD COATINGS

The Institute for Wood Technology Dresden GmbH (IHD), in collaboration with its subsidiary Development and Testing Laboratory for Wood Technology (EPH), will be presenting its credentials at stand 419 in hall 5. The main focus of the presentation will be the IHD's current research activities in the areas of light protection, fire protection and on topics such as „UV-LED-curable coating systems for wood surfaces" and „novel reactive oils for outdoor applications".
The accredited laboratory run by EPH GmbH will present its extensive range of biological and surface durability tests for internal and external coatings as well as its chemical-analytical expertise in the determination of ingredients and emissions.

CONTROLLED ENVIRONMENT

The stand of the newly formed ChemQuest Technology Institute could also be worth a visit. The state-of-the-art facility was designed to provide coatings suppliers with the ability to test their products in a controlled environment that replicates a range of production conditions. The applications laboratory incorporates a selection of technologies, including 6-axis robotics, electrostatic and wet spray, flat and hang lines, IR, UV and convection curing. Also included will be an automobile-sized cross-ventilated spray booth suitable for robotic or manual equipment.

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CONFERENCE HIGHLIGHTS

SPOTLIGHT ON FUNCTIONAL MATERIALS

Professor Renaud Nicolaÿ of ESPCI to give keynote speech at the ECS Conference

"Functional" is a quite a popular buzzword, not only in every-day life but also in the coatings industry. The keynote of the upcoming European Coatings Show Conference will also turn the spotlight on the development of functional materials.

The keynote of the European Coatings Show Conference 2017 will focus on functional materials. Professor Renaud Nicolaÿ of ESPCI (The City of Paris Industrial Physics and Chemistry Higher Educational Institution) in France will give a speech entitled "Towards functional coatings and materials by dynamic covalent chemistry". In his keynote, he will present his research project on dynamic covalent chemistry and its potential for the coatings industry. „Dynamic covalent bonds are strong chemical links that can provide processability and reparability to permanently crosslinked materials", explains Prof Nicolaÿ. „As a result, dynamic covalent chemistry is a unique tool for the design of materials and coatings with hitherto unattainable properties. By introducing such links into acrylic and olefin networks, we were able to prepare materials with superior properties, e.g. chemical resistance and dimensional stability." In addition, the materials are perfectly recyclable. „They can lead to new possibilities, such as assembling of incompatible polymers without the need for an adhesive", adds Nicolaÿ „This latter possibility is of great interest to develop multilayer films or protective coatings without tie layer."

"Dynamic covalent chemistry is a unique tool for the design of materials and coatings with hitherto unattainable properties."

Prof. Renaud Nicolaÿ

The keynote speech will take place during the plenary session of the conference on Monday, 3 April.

INNOVATION SLAM

PASSION FOR GLORY: THERE CAN ONLY BE ONE

The second ECS Innovation Slam brings novel products into the ring in three-minute pitches

The concept is simple: each contestant steps into a boxing ring and has 180 seconds to convince the crowd that their company's latest development is the most compelling innovation on the show floor. This epic battle will commence on Wednesday, 5 April at 14.30 h close to the Vincentz Network stand #352 in hall 4. So come along and cheer for your favourite!

EC_The first ever Innovation Slam was held at the previous ECS in 2015 and was an enthralling spectacle to behold. More than 500 people gathered around the ring or watched the showdown on their computer screens, where the epic battle was being live-streamed for those who could not attend.

The entire event is run in the style of a boxing match. Each contestant has three minutes to make a pitch for their innovation: they can even bring it into the ring to try and figuratively knock out their opponents with a stunning and compelling presentation. Brief, snappy, funny – anything goes, as long as it is all done in a spirit of fairness. Our referee will ensure that it is a clean fight and that there are no hits below the belt.

In 2015, five contestants battled it out at the first ECS Innovation Slam.

After each pitch, spectators are allowed to ask questions and so give the contestant a further chance to win even more sympathy for his or her innovation. When all contestants have presented their pitches and answered questions, ring-side spectators and those in front of their screens then determine the winner. Using the ECS app, they cast their vote for whomever they wish to see crowned champion. The winner will receive the ECS Innovation Slam Award in the shape of an exclusive champion's boxing belt. Go for it! Let the fight begin! Without more ado: "Seconds away and may the best innovation win!"

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FUNCTIONAL COATINGS

"FIELD OF INTEREST: INTUMESCENT COATINGS"

Additives can optimise functional coatings with protective properties

Dr Stefan Mößmer, Byk

Functional coatings are a fascinating field of application. Dr Stefan Mößmer, head of the paint addditives business line at Byk, explains how additives can enhance their properties and also enlarges on promising novel developments.

What is your definition of "functional" coatings?

Functional or smart coatings are stimuli-responsive systems that change their properties when exposed to external stimuli. One example is anti-fouling marine coatings for use below the waterline. These prevent the accumulation of unwanted maritime organisms on ships' hulls, off-shore installations and other submerged surfaces – adhesion of marine organisms eventually causes a huge build-up in drag on the ship's hull, boosting fuel consumption and leading to greater CO2 emissions. Fire-retardant coatings, also known as intumescent coatings, are another example of smart coatings. Steel is a widely used substrate, but it loses its structural integrity at temperatures of around 500°C. Intumescent coatings prevent steel from prematurely losing this integrity by developing an insulating char when the coated steel is exposed to fire. The aim is to develop coatings that can withstand temperatures of approx. 500°C for as long as possible.

To what extent can additives optimise functional coatings?

Superhydrophobic coatings confer lasting, easy-to-clean effects on, e.g., protective coatings. Novel additives are being developed with the aid of custom silicone building blocks that yield unique polymer architectures and reactive functionalities which can be covalently fixed in the resin matrix by means of crosslinking. While the crosslinking within the resin system provides the durability, the silicone component of the additive, thanks to its hydrophobic/oleophobic properties, contributes an easy-to-clean effect that ensures dust, oil, pen marks, wine and coffee can be readily removed from the coated substrate.

Which additives for functional coatings are currently the most interesting?

One interesting field is additives for intumescent coatings, where special additives are used to enhance the formation and stability of the insulating char, which is formed upon exposure of the coating to heat. Another is additives with anti-graffiti properties, which are in high demand for protecting public and private buildings from unwanted disfigurement. Yet another is the use of additives – whether based on biotechnology or silicone chemistry – in anti-fouling coatings. Finally, there are additives currently being developed that exhibit a permanent easy-to-clean effect as well as de-icing properties.

Source: Byk

R&D INSIGHTS

"TRADITIONAL PROPERTIES ARE NO LONGER ENOUGH"

The latest trends in architectural coatings

Differentiation, legislation and boosting efficiency are among the main factors driving innovation in architectural coatings, says Daniel Brünink, Director Global Marketing Decorative Coatings at Evonik. He also gives an insight into the latest trends in eco-friendliness and how real estate influences the architectural coatings market.

What is R&D in architectural coatings currently focusing on the most?

From our perspective as a producer of formulation ingredients, we are helping our customers in three key areas at the moment. First, our customers are striving for differentiation from the competition. Traditional coating properties are no longer enough – our customers are seeking to gain an advantage by imbuing their coatings with additional functionality. They expect their paints to offer functionality in the areas of health and well-being, greater convenience and, to some extent, technology. The first generation of these products is already on its way to market. These include antimicrobial paints and paints for cleaner air and heat protection. However, there is still a long way to go before market expectations can be balanced by the performance of future functionalities. The se cond driver of innovation is changes in regulation, which puts paints manufacturers to enormous trouble. We are working closely with the paints manufacturers to keep their raw materials in line with the stricter requirements and the additional need for sustainability, no matter whether it is requested by the consumers or by the authorities. The third focus is on boosting efficiency gains for our customers. The trend here leans in favour of analysing the interactions between raw materials. Instead of sourcing the cheapest grade for one ingredient, paint manufacturers are optimising the system costs of overall raw material usage and the process costs, without sacrificing the quality.

What are the latest developments in the sector as regards sustainability and eco-friendliness?

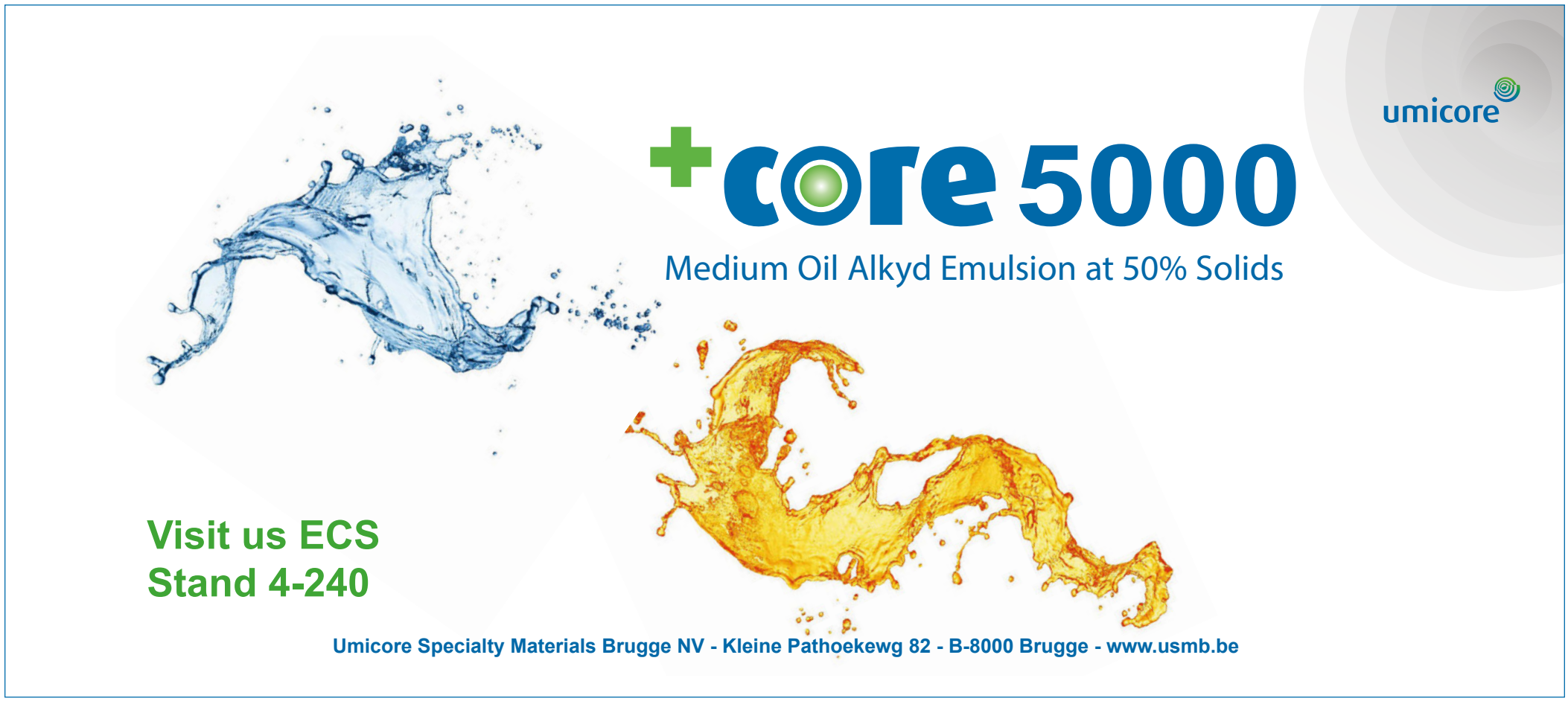
Consumer perception of eco-friendliness is changing the behaviour of the paints industry more and more. Paints are being identified as a source of indoor air pollution and customers are demanding healthy and sustainable solutions. More and more customers are focusing not only on the paint ingredients but also on the packaging and what they should do with the waste. The industry is working hard on further optimisations aimed at meeting these requirements.

Daniel Brünink, Evonik

Many of the new ingredients are made from renewable resources or have a balanced life cycle. Not only that, but eco-paint is growing in importance in price-sensitive markets.

How much is the field impacted by trends in architecture and by real estate?

Architects create future demand by imposing higher requirements on aesthetics and paint performance. The requirements on hues and performance keep rising all the time and are outstripping the performance capabilities of existing raw materials. Thus, superior technologies are becoming increasingly important for architectural coatings. Overall, the weak housing market in some regions in recent years is forcing painters and paint manufacturers to be more creative and to serve different market niches and trends.



NOVELTIES

WHAT'S NEW AT THE ECS?

Novel features at the show and conference

Source: Niroworld - Fotolia

Along with many recurring highlights, the European Coatings Show 2017 offers a number of new features.

The catalogue of all exhibitors is now exclusively available in electronic format. Rather than having to lug around a print catalogue, you can simply browse the show navigator on the ECS website. Naturally, the exhibition catalogue is also a part of the official European Coatings Show app.

The format of the European Coatings' speaker and author meeting has been changed. All authors of European Coatings books and technical articles in the European Coatings Journal as well as speakers at the European Coatings Seminars are invited to a happy hour with cocktails instead of the traditional lunch. The meeting takes place on the first day of the conference on 3 April.

In addition to the new features, recurring highlights such as the Product Presentations and the Innovation Slam, being held for the second time, will once again be part of the show.

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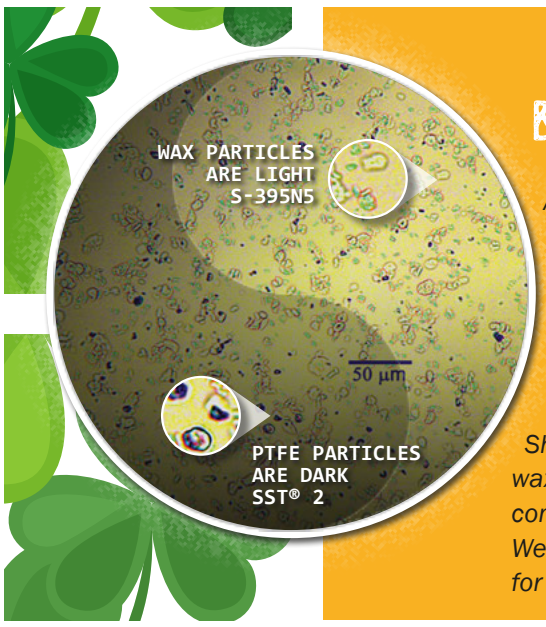

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PRODUCT PRESENTATIONS

NON-STOP INNOVATIONS

Exhibitors will line up to deliver short presentations

Visitors of the European Coatings Show will - once again - be given a quick glimpse of new products on the market. The popular Product Presentations section will feature a wide variety of speakers introducing their companys products. All speakers have just 15 minutes each to tell attendees what they need to know about the development, performance and technology behind their latest coating novelties.

Once again, the Product Presentations section of the European Coatings Show will pique visitors' interest with an overview of novel coating products. Exhibitors will be lining up to deliver short presentations on their latest products. They have just 15 minutes each to provide detailed information about the development, performance and technology behind their products. Not only will they focus on the novelties, they will also expound on market trends in their respective fields. After their presentation, they will make themselves available for brief discussions with attendees.

NO ADMISSION CHARGE

There is no admission charge to the Product Presentations, and ECS visitors are free to drop by at any time – no registration is necessary. An overview of the various product presentations will be posted shortly on the European Coatings Show website. Exhibition visitors will also be able to access the presentations online when the trade show is over.

CONFERENCE AWARD

WHO IS THE WINNER?

Best conference contribution to be honoured with the European Coatings Show Award

Find out who has won the European Coatings Show Award at the opening ceremony of the ECS Conference.

One of the recurring highlights of the European Coatings Show is the presentation of the European Coatings Show Award. This prestigious award, which is sponsored by the European Coatings Journal, goes to the best paper that is delivered at the European Coatings Conference.

After considering all the conference contributions, a jury of experts will decide on the winner of the specially commissioned award and the EUR 2,000 in prize money. Their decision is based on such criteria as relevance, scientific content and degree of innovation.

LOOKING BACK AT 2015

In 2015, Dr Fred van Wijk and his team at Allnex (former Nuplex) in the Netherlands won the prize for their paper "Taming the Michael Addition reaction: Ultra-fast drying, low VOC, isocyanate-free technology for 2K coatings".

The award presentation will take place during the opening ceremony of the European Coatings Show Conference on Monday, 3 April.

In 2015, Dr Fred van Wijk and his team at Allnex (former Nuplex) in the Netherlands received the ECS Award.

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VINCENTZ

AT A GLANCE: TICKETS AND OPENING HOURS

European Coatings Show

Opening hours

Tuesday and Wednesday:	9.00 - 18.00 h
Thursday:	9.00 - 17.00 h

Exhibition entrance tickets

1-day ticket	€ 55
Permanent ticket	€ 75

Visitor tickets obtained in advance are automatically allocated a free VGN (Greater Nuremberg Area Transport Authority) combined ticket enabling you to use all public transport in the Nuremberg/Fürth/Stein area free of charge.
Free admission for trainees and students from the coatings industry on presentation of suitable proof.

Online ticket shop

Entrance tickets can be ordered via the internet:
www.european-coatings-show.com/tickets

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European Coatings Show Conference

Opening hours

Sunday (Pre-conference tutorials)	15.00 - 18.30 h
Monday	8.30 - 19.30 h
Tuesday	9.00 - 17.00 h

Full conference

3-4 April 2017: (exclusive Pre-conference tutorials)

Standard fee	€ 1,350
Reduced fee*	€ 1,215
University members	€ 675

Single day ticket

Standard fee	€ 930
Reduced fee*	€ 840
University members	€ 465
Pre-conference tutorials	€ 450

Livestream

Full conference livestream	€ 350
Single-day livestream	€ 200

Register online:
www.european-coatings.com/conference

* Discounts
Companies exhibiting at the European Coatings Show 2017 or members of EuPIA will be given a 10 % discount of the standard fee

Fees include
- Admittance to the conference day booked
- Conference proceedings
- List of attendees
- Luncheon & coffee breaks
- Permanent exhibition ticket
- After work reception
- Welcome get-together

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NÜRNBERG MESSE

EUROPE

DIFFERENT GROWTH PATTERNS

A look at the European paints and coatings market in 2016. By Monique von Dungen, CHEM Research GmbH

CHEM Research estimates that European demand for paints and coatings will reach 8.5 million tonnes in 2016 and be worth about EUR 26 billion. The market is expected to keep growing at a lower rate than GDP.

The European market for paints and coatings continues to experience different growth patterns and drivers. Since 2015, following the slow economic recovery of the European Union, the market has suffered from the negative impact of economic uncertainty and political tensions, especially in eastern Europe.

On the other hand, there are positive aspects sustaining European demand for paints and coatings: relatively stable consumer spending and healthy growth in the automotive sector across several EU countries. These factors are having a stabilising effect both on the European economy and on demand for paints and coatings. Furthermore, the building sector is finally emerging from a long recessionary phase. Investments in housing and infrastructure projects are picking up.

REGIONAL MARKETS

The European Union (28 Member States) generates about 70% of European demand for paints and coatings, while eastern Europe (including CIS and Turkey) contributes 30%. Eight countries together account for nearly 80% of the European market, with Germany the largest single national market.

The low growth in European demand volume (average: < 1%) has been marked by different regional growth patterns since 2015, with a gradual recovery taking hold in southern Europe. In addition, the UK, Germany, Spain, Sweden, Poland, Turkey and central European countries have enjoyed above-average growth in demand. Nevertheless, this overall moderate growth has been offset to a large extent by a market contraction in Russia.

Other factors which are acting as a brake on demand for paints and coatings are mandatory regulations aimed at lowering the products' volatile organic carbon (VOC) content plus overall attempts to reduce consumption of paint and coating materials. A huge amount of effort is being expended for economic reasons on reducing the amount of material applied per square metre of coated surface. This aim can be achieved in part by applying thinner coating films – supported by the use of higher-performance raw materials. Further savings can be made by reducing the amount of paint that is wasted during application. An additional trend holding back growth in demand for paints and coatings is the elimination of the need for surface coating altogether. This trend is supported by the use of alternative building and assembly materials that do not require coating, such as stainless steel, pigmented plastic materials, or the use of laminated films.

END-USE MARKETS

The paints and coatings market can be segmented in different ways, e.g. by end use and by performance requirements.

Architectural paints represent a very sizeable end-use segment that commands more than 50% of the total market volume. The thick layers, consisting of heavily filled plasters and referred to as renders and distempers, are excluded from this analysis.

Industrial finishing can be split into a plethora of market segments. The greatest end uses in the substantial sector of General Industry are to be found in general metal finishing, can and coil coating, electrical appliances and machinery, transportation equipment (railroad rolling stock, aircraft, commercial vehicles). A further sizeable consumer segment within industrial finishing is the automotive sector, comprising both original equipment manufacturers (OEMs) and repair finishes. Meanwhile the segments of Heavy-Duty Corrosion Protection and Industrial Maintenance, and Marine and Offshore Structures require high-performance, professionally applied protective coatings. Furniture and industrial wood finishing (including joinery, parquet floors and panels), on the other hand, consume coatings specifically intended for wood surfaces which are sensitive to heat and moisture. Other end uses include plastic and paper finishes as well as miscellaneous special-purpose coatings used in modest quantities.

Key end-use markets experiencing higher-than-average growth are automotive OEMs (which are enjoying higher production levels), wind energy structures, plastics finishing and special vehicles in the transportation sector.

PRODUCT CATEGORIES

Paints and coatings can be classified under four major product categories. Water-borne systems represent the largest category due to their importance in architectural paints and their growing role in industrial coatings.

Solvent-borne coatings have traditionally been the workhorse among industrial finishes. For decades, users of solvent-borne coatings have faced tightening regulations aimed at lowering solvent emissions. The purpose of these regulations is to both protect the environment and to prevent human exposure to VOC. Nevertheless, the shift to non-solvented and solventless coatings, such as powder, high-solids and radiation-curable coatings has been gradual and fragmented, but continues in those applications which are amenable to technology substitution. In some industrial finishing applications, however, solvent-borne coatings are well managed. There, solvent emissions can be captured and controlled with suitable equipment which permits the use of solvented coatings.

Historically, and for reasons of protecting the environment, usage volumes of solvent-borne coatings have decreased by 1% to 2% per annum on average. This change has created substitution opportunities for the competing three, more-ecological product categories. This trend is continuing and helping each category to gain market share at the expense of the conventional solvent-borne systems.

Thus, the European market for paints and coatings continues to evolve technologically, raising the solids contents of its products and extracting greater performance from less coating material. This trend is adding value to a market which is also under threat from commoditisation and competition in the guise of alternative surface-protection and decorative solutions.

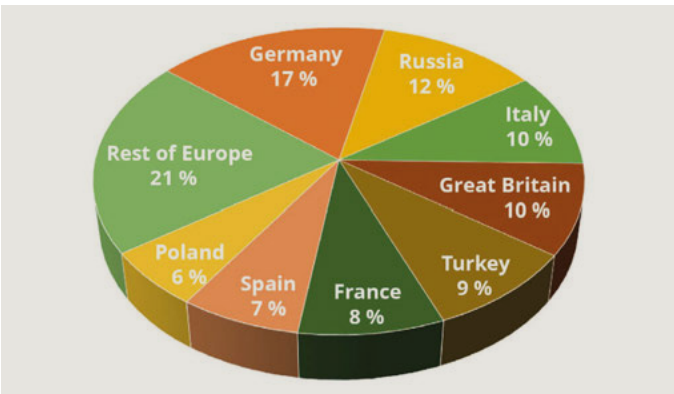

Figure 1 – Geographic split of the European market 2016 (tonnes)

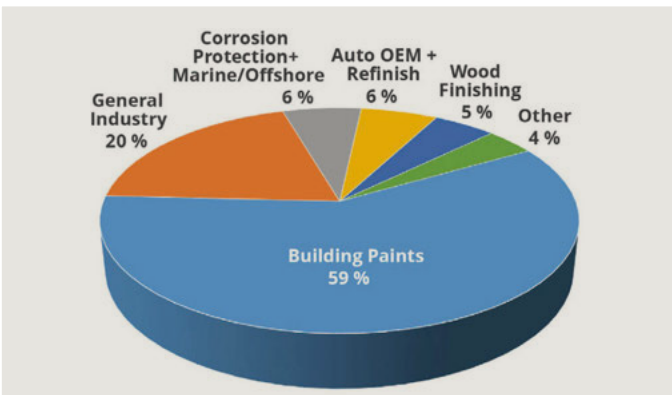

Figure 2 – End-use split of the European market 2016 (tonnes)

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WHAT TO DO

MUCH MORE THAN A CITY OF TRADE SHOWS

Nuremberg has a lot to offer. There are quite a few opportunities to relax or dine

Visiting great trade fairs and conferences can be exhausting. Fortunately, Nuremberg offers visitors to the European Coatings Show and Conference plenty of scope for forgetting all about coatings for a couple of hours.

Apart from the European Coatings Show, what do you associate with the word Nuremberg? If your answer is bratwurst (sausage), well done! This local speciality can be sampled all over the city. The citizens of Nuremberg – dare we call them Nurembergers – are really proud of their sausages. Believe it or not, there is a dedicated website in which the Franconians not only detail the history of the small bratwurst, but also show 10 traditional ways in which Nurembergers cook what is likely the most famous sausage in Germany. According to the website, the Nuremberg bratwurst is the ultimate embodiment of every nuance of the difficult Franconian character.

So, after a busy day at the European Coatings Show or the ECS Congress, you should definitely track down the sausage in one of the regional hostelries. You might try out one of these locations:

Bratwursthäusle: The Bratwursthäusle is full of Franconian rustic charm. They cook authentic Nuremberg bratwurst over an open beech fire.

Goldenes Posthorn: Just around the corner and also with a view of the St. Sebald church is the Goldenes Posthorn, which claims to be the oldest wine bar in Germany. The restaurant was founded in 1498 and serves up typical local dishes.

Bratwurstglöcklein: Located near the main railway station, this old half-timbered house serves up hand-grilled bratwurst. Watch out for the bell-shaped plates made of tin.

CULTURE AND ENTERTAINMENT

Anyone with time to stay on in Nuremberg for one or two extra days will find plenty of culture available. For example, the city is home to about 40 museums, including the Germanisches Nationalmuseum (German National Museum), which is the largest cultural history museum in the entire German-speaking world. The museum houses around 1.3 million objects dating from the early period to the present. Also worth a visit are the Museum Industriekultur (Museum of Industrial Culture), the Spielzeugmuseum (Toys Museum) and the Dürerhaus (Albrecht Dürer's house).

The Dürerhaus is just one of many attractions in Nuremberg dedicated to the eponymous Renaissance artist. Born in Nuremberg on 21 May 1471, his presence can still be felt everywhere to this day. For example, a monument was erected to his memory three hundred years after his death and it still stands in the city. He is also buried in the city – in the St. Johannisfridhof (St. John's cemetery). Aside from being a painter, draftsman and graphic artist, Albrecht Dürer wrote works on the theory of proportion, geometry and fortifications.

INTO THE DARKNESS

If you are not afraid of the dark, take a guided tour of the Nuremberg rock-cut cellars. The city is full of underground walls and tunnels. Why were they built? One of the reasons is the city's rich beer culture meant that somewhere was needed to store beer while it was maturing.

The famous rock-cut cellars were mentioned for the first time in 1380 in a document defining a building law. It said that everybody who was brewing beer in his house had to have a cellar "ten feet deep and sixteen feet wide".

The red sandstone into which the citizens cut their cellars in the following centuries turned out to be very stable. Thanks to the clever construction of pillars standing perfectly above each other, the maze-like cellar-vaults even stood firm against the bombs of the Second World War. Thousands of Nuremberg's citizens came here for shelter during air-raids by allied forces.

NATURE AND ANIMALS

For culture and history nerds, the city also offers other ways to recover from the trade fair and conferences. For example, the local zoo (Tiergarten Nürnberg), houses a modern dolphinarium, which opened only a few years ago.

The dolphins demonstrate their clever skills and intelligence in live shows held several times a day. The so-called Blauer Salon (Blue Salon) offers an intimate close-up with the underwater world of the dolphin lagoon and is connected to the Manatihaus (Manatee house). A 13-metre-long, 4.30-meter-high panoramic glass wall provides fascinating insights into the great bottlenose dolphins and the sea lions under water. On the other side of the Blue Salon, you can observe the languid movements of the manatees.

If you like Nature, but not zoos and dolphins, you can relax in Nuremberg's gardens. A hidden gem is the mayor's garden, which is somewhat out of the way. It can be reached via the only section of the Nuremberg castle walls that is accessible to the public. It's an enchanted fairy-tale world. Stone gates, statues, benches and steps line the winding path and, if you look out from the stone gallery, you have a wonderful view of Tiergärtnertorplatz and the Albrecht Dürer House. And if you still haven't had your fill of Nature, at the end of the path there is a small gate, opposite the mayor's garden, leading to the medicinal plants garden.

Things become more exotic then in the Japanese Gardens. Part of this 1,000-square-metre Japanese dry landscaped garden („kare-sansui") is a 150m² wooden terrace from which one can contemplate the entire spectrum of Japanese gardening influenced by Shintoism and Zen Buddhism.

ARCHITECTURE

Architectural enthusiasts will not find the city wanting. Nuremberg's bridges are a delightful place to take a stroll. The Kettensteg bridge is one of the city's most popular photographic attractions. The former Reichsparteitagsgebäude (Congress Hall of the Nazi party), on the other hand, offers an architectural insight into Germany's darkest period. From 1934 onwards, Hitler's architect Albert Speer had been drawing up a grand plan for the future Reichsparteitaggelände (Nazi party rally grounds). They were to be sublime, powerful and awe-inspiring, and to last an eternity. And so the plans deliberately lacked colour and decorative elements – everything was designed in cold grey. The war prevented the completion of the enormous grounds, which today serve as a protected reminder of the tyranny of the Third Reich.

You'll find much more cheerful architecture in the old town. For instance, Nassauer House, a tower made of red sandstone that probably served as a residence for the royal administrators. Its battlements and corner towers were more than likely purely symbolic and not built for defence.

The Nassauer Keller restaurant with its cross-vaults, as well as the two lower floors, bears witness to Romanesque architecture in Nuremberg in the 12th and 13th centuries. The upper storeys date back to the 15th century and display typical elements of Gothic architecture.

kab-vision - Fotolia

Nuremberg is well known for its hearty cuisine.

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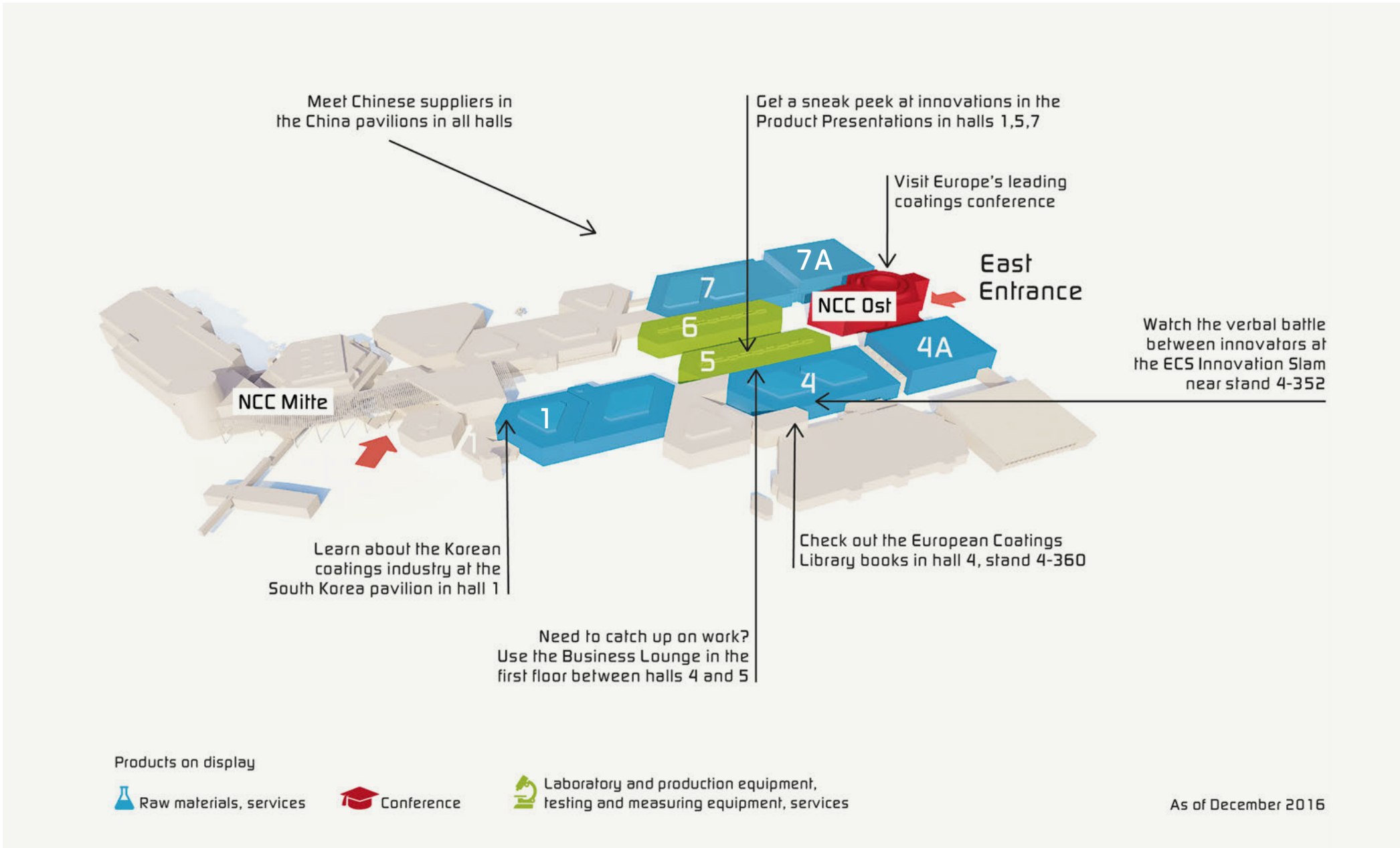
FINDING YOUR WAY AROUND

Highlights at the European Coatings Show



PLANES, TRAINS, AND AUTOMOBILES

EN ROUTE

How to get to Nuremberg

Many roads lead to Rome – and Nuremberg, host city to the European Coatings Show. This beautiful historic city is located in the south of Germany and is easily accessible,

Whether you plan to travel by air, car or train – getting to and from Nuremberg should be easy. Getting around town is just as convenient, especially as there are good connections from the Exhibition and Congress Centre to the city centre.

BY PLANE

Nuremberg's Albrecht Dürer Airport is served by most European cities. If you are on an intercontinental flight, most neighbouring international airports such as Frankfurt, Hamburg, Munich, Amsterdam, Zurich and Paris offer connecting flights to Nuremberg. The airport is conveniently located and well-connected to the city centre. Once your plane has landed, you can use the underground rail network to get to the Exhibition Centre within 25 minutes by taking the U2 to the main station and changing there to lines U11 or U1. If you prefer a direct service, you can get to the Exhibition Centre in around 20 minutes by taxi or by renting a car in one of the many car rental services located at the airport.
Do you have any visa issues? The international representatives of NürnbergMesse in your country are there to help you. Should you require an invitation letter for the visa, there is a form on the ECS website that you can fill out.

BY RAIL

Another great way to travel to Nuremberg is by rail. Nuremberg's main station is connected to national and international railways networks and is served by EC, ICE and IC trains. As Deutsche Bahn is a partner of NürnbergMesse, be sure to check out special offers for exhibition visitors. If you book your ticket by calling the service hotline, quote "NürnbergMesse" as a reference. More information is available on the ECS website.

BY CAR

Admittedly, the German autobahn does not quite live up to its international reputation of no-limits speeding all the way. However, it is another fast and easy way to travel to Nuremberg. The city offers great motorway access routes and can be reached via the European motorway network. Autobahns A3, A6, A9 and A73 all head towards the Exhibition and Congress Centre. If you have a satellite navigation system, just type in "Karl-Schöneleben-Straße" or even "Messe" to be guided straight there. Or, on the A6, take exit 59 "Langwasser" or, on the A9, exit 52 "Fischbach".

REGULATION

TITANIUM DIOXIDE: "NOT JUSTIFIED"

The industry trade associations (TDIC/TDMA) on the French proposal for TiO_2 and its consequences

Dr Tony Jones from the TDIC/TDMA explains why the industry trade association opposes the French proposal, possible consequences, and how the industry should respond. He also provides an outlook on the latest trends and challenges with regard to TiO_2.

Source: Syda/Fotolia

What is your view on the French proposal for the classification for titanium dioxide?

The TDMA/ TDIC believes that the French proposal is not justified from a toxicological perspective for several reasons. The observed effects used to form the French proposal are based on old studies carried out at extremely high concentrations (250mg/m3), well above OECD guideline levels. No carcinogenicity was seen at normal test levels. Tumours were observed only in rats (not in mice or hamsters) and under extreme lung overload conditions – these results are not applicable to humans. There is extensive epidemiology data relating to 24,000 workers and dating back several decades that shows no adverse health effects on TiO_2 workers.

A new French proposal seeks to label TiO_2 as a human carcinogen. What is the potential impact on our industry?

Classification as a category 1B or even category 2 carcinogen would result in TiO_2 falling under the CMR regulations and being restricted to "professional and industrial use". Hence, certain products such as paints, adhesives, sealants, would no longer be available to the consumer to buy for DIY purposes. Use in the cosmetics, pharmaceutical and food markets or toys, for example, would either be banned or require reassessment. Additionally, many wastes would be reclassified as hazardous, a move that would seriously affect manufacturers throughout the value chain and the end-of-life recycling or disposal of products. Acceptance of rat lung overload studies as being relevant to humans would also implicate many other poorly soluble particulate materials and would logically lead to them being classified in the same way.

How should/can the industry (TiO_2 producers) respond?

The industry trade associations (TDIC/TDMA) made a detailed scientific response to the proposal during the public consultation, as did many downstream user trade associations and customers (with 514 responses it was by far the largest response to any such public consultation for a harmonised classification and labelling dossier). We are meeting with Member States to explain our detailed scientific arguments. We have also organised a 2-day scientific symposium on the science of lung overload, and we are also undertaking a socio-economic analysis to emphasise the enormous impact that classification could have on European industry, consumers and the economy. It is important for regulators to understand that classification as an inhalation carcinogen would have far reaching consequences, even if most downstream users are not exposed via inhalation.

What trends will dominate this segment in the near future in your point of view?

An ever-increasing burden of product and environmental regulation is a major factor across the chemicals sector in Europe. Working with national regulators, we seek to ensure the safe use of chemicals based on sound science that protects people and the environment.

Where do you see the main challenges?

In recent years, competition from China has increased significantly and, although many of their smaller Asian-based factories have been closed on environmental and economic grounds, the remaining players have consolidated into significant global suppliers. During the last upturn in pricing, many users tried very hard to reduce their usage of TiO_2 but found it difficult to make significant savings without impacting product properties. Provision of cost-effective opacity remains a challenge as there is no direct substitute for TiO_2.

Dr Tony Jones, TDIC/TDMA

CONSTRUCTION CHEMICALS

"VIRTUALLY SYSTEMATIC USE OF CONCRETE ADMIXTURES"

Superplasticisers enhance the performance of mortar and concrete

Modern structures and buildings impose high demands on construction chemicals. Novel water-borne polycarboxylate ethers meet market needs for such products as high-fluidity concrete, high-strength concrete, and underwater concrete, says Dr Michel Melas, construction lab manager at Coatex.

To what extent can additives influence the performance of construction chemicals?

Nowadays, virtually systematic use is made of concrete admixtures in the manufacture of mortar and concrete. In the admixtures range, superplasticisers such as polycarboxylate ethers (PCEs), are generally used to reduce the amount of mixing water required and to increase the fluidity of these formulations. They help to lower the water-cement ratio and cement content and to boost slump retention. Lowering the water-cement ratio generally leads to an increase in compressive strength and translates to enhanced performance.

What are the latest trends in water-borne rheological additives for construction chemicals?

Compared with the previous generation of plasticisers (lignosulphonates, melamine sulphonates, naphthalene sulphonates), there are now different types of PCE available (MPEG, APEG, VPEG, HPEG, IPEG, XPEG...) which are suitable for structures and buildings and which deliver unrivalled performance. In this context, we are developing a wide range of water-borne PCEs based on a unique technology with a view to meeting market needs for high-fluidity concrete, high-strength concrete, underwater concrete, sprayed concrete, self-compacting concrete with, if necessary, a long slump life and without sacrificing early strength.

Dr Michael Melas, Coatex

Which applications for construction chemicals are the most promising at the moment and why?

Construction chemicals face challenges in the form of high-fluidity concrete, pumpable up to a record height of 650 m, slump retention over three hours at temperatures as high as 50 °C, enhanced tolerance to different cement compositions in the presence of clays, and management of the high durability of concrete. Requirements like these were unthinkable before the advent of PCE polymers, but they are met in full by the latest developments of superplasticisers from our construction department.

Source: coatex

MEASURING AND TESTING

"TOOLS TO BETTER TEST AND REFINE FORMULATIONS"

Innovative testing methods represent real-world conditions accurately

Sean Fowler, Q-Lab Corporation

Sean Fowler is weathering and corrosion technical manager for Q-Lab Corporation in the USA. In this interview, he expands on current developments in measuring and testing technology.

What role does measuring and testing technology play for paints and coatings development?

In the world of paints and coatings development, there is a relentless push for continuous improvement. Weathering and other testing technologies allow manufacturers to test new formulations in order to improve durability, reduce cost, qualify new vendors, or reduce environmental impact. Rather than waiting for years to see how new formulations perform, they can use testing as a powerful, directional decision-making tool (e.g. "Is my new product better or worse than my current one?").

What are the latest trends in this area?

Today, we are innovating around better test methods that more accurately represent real-world conditions. In the past, standards were limited by legacy-weathering test equipment, which led to tests that failed to accurately replicate failures seen outdoors. By removing hardware requirements and focusing on environmental parameters, the paints and coatings industry finally has the tools to better test, re-test, and refine formulations to meet their durability, cost, and environmental goals.

What new developments do you expect/hope to see at the ECS 2017?

We hope to see more weathering test data collected using newer, modern standard test methods, such as ASTM D7869. Research has indicated that this new method can improve manufacturers' ability to correlate accelerated laboratory weathering to natural exposures. Preference for EN and ISO standards has limited its adoption in Europe, but many European companies are recognising the international scope of ASTM standards and are looking at D7869 as a global best practice for weathering testing.

Source: science photo/Fotolia

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VINCENTZ

SUSTAINABILITY

"WE WILL SEE INCREASED USE OF BIO-BASED MATERIALS"

Most coatings are still produced from fossil resources. But sooner or later, the industry has to look for alternatives.

Prof. Mats Johansson, KTH Royal Institute of Technology, Sweden .

If you want to find really sustainable coatings in the market, you have to look very hard. However, the academic world is quite active in this field. We spoke with Prof. Mats Johansson from the Royal Institute of Technology, Sweden about current challenges.

From a chemist's point of view, what are the biggest challenges facing you nowadays when you want to develop a bio-based coating?

There are several challenges to handle and this is probably one of the reasons for the rather slow progress in this area. I would say that there are also different routes to biobased coatings and they each impose different demands.

One route is to replace currently used monomers with the same molecule but derived from a biosource. For example, a natural methanol might be used instead of fossil-based methanol in the production of polyols. In this case, it's quite straightforward to use the bio-based system since it has already been validated in real applications. The sustainability aspect then comes down to how the biomethanol has been derived, i.e. if it compares positively in a life cycle analysis.

Another route is to replace existing systems with other components derived from a biosource and then to formulate a new system that replaces the fossil-based one. In this case, the new system must also be validated in the final application, meaning that an additional development step is needed.

From a purely chemical point of view, one big challenge is to produce biobased monomers of well defined composition. Bio-based monomers are normally obtained as mixtures, and purification steps normally increase the price.

Not every material that is bio-based is automatically sustainable. For example, you might be competing with the food chain. How might this be avoided?

There are substantial efforts underway to address this issue through the use of side streams from current industries as a way of to avoiding this competition. These could, for example, be side streams from the paper and pulp industry, such as lignins and hemicellulose, that today are mainly used for energy recovery. There are also large-volume side streams from the food industry that offer potential in this respect. One should be careful, however, not to adversely affect the farm system with respect to food production if these streams are used outside the current system.

There are also geographical factors to consider. Conditions can vary substantially with location. There is a clear tendency for competition with food to be more severe in more densely populated regions.

The academic world seems to be very active in the area of bio-based materials, yet the coatings market is clearly dominated by conventional materials. Do you think, this is just a price issue?

Price, of course, is one of the most important factors but I also think that there is an intrinsic delay factor in the length of time it takes to validate new systems. Some coating systems need to be warranted to last for up to 20 years and any totally new system therefore needs to be tested appropriately in order that such a warranty can be given. However, there are several new systems being introduced onto the market and I think we can foresee that this trend will continue.

The oil price has fluctuated significantly in recent years and this may affect the introduction of bio-based materials in the short term. But I think that, from a longer perspective, we will see increased use of bio-based materials in coatings. One parameter that I also think will be of importance is potential changes in legislation and they are more difficult to predict.

Masthead

European Coatings Show Preview
Vincentz Network
P.O. Box 6247
30062 Hanover, Germany
www.european-coatings.com

Editorial team
Dr Sonja Schulte (Responsible)
+49 511 9910-216

Kirsten Wrede
+49 511 9910-212

Damir Gagro
+49 511 9910-209

Jan Gesthuizen
+49 511 9910-219

Vanessa Bauersachs
+49 511 9910-217

Cornelia Fischer (Assistant)
+49 511 9910-215
Fax +49 511 9910-299

E-mail: editors@european-coatings.com

Layout and production
Maik Dopheide (Responsible)
+49 511 9910-165

Sales
Anette Pennartz (Director)
+49 511 9910-240

Printer
Hofmann Infocom AG
Emmericher Straße 10
90411 Nuremberg, Germany

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RADIATION CURING

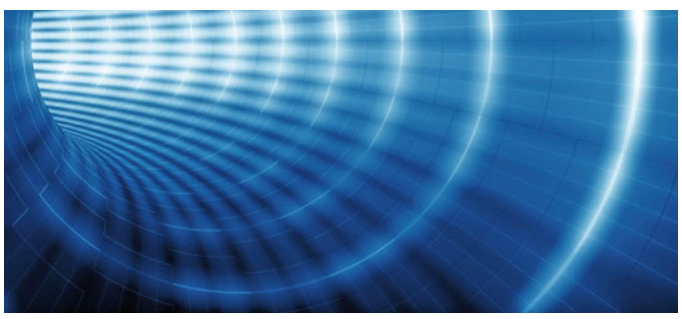
"UV-INKJET HAS A BRIGHT FUTURE"

Global product registrations, substrate changes, and sustainability are posing challenges for the rad-cure industry

UV-inkjet may be an emerging field, but it is projected to have a bright future, says Gregory Gerin, Global Marketing Director Radcure and Scott Auger, Global Marketing Manager Packaging Coatings & Inks at Allnex. They also expand on the trends and challenges in radiation curing.

How important is UV-inkjet for the UV coatings sector?
Graphics is the largest segment in the UV coatings industry and UV-inkjet is growing faster than any other graphics segment. UV curing is the preferred method for this type of commercial printing, with regional hotspots in Europe and the U.S. The downside is that the current UV-inkjet business is only about 2% of global UV ink volume. The shift to digital printing is a key trend within the graphics industry and is being driven by convenience (local, print on demand, QR code) and customisation (brand message, short runs, personalisation). UV-inkjet has a bright future, with improvements occurring in speed and quality on all types of substrates, but at the moment the business is still just emerging. Allnex is working with all the major inkjet ink producers to provide inks that will meet the needs of this nascent business.

What are the fastest-growing applications of UV coatings at the moment?
While most UV-EB curing applications are still enjoying growth of 3-4% per year, some are expected to grow at a double-digit rate over the next couple of years. Use of rad-cure coatings in PVC flooring and LVT (Luxury Vinyl tiles) is expected to grow by 10% per year in Europe and North America. In the graphics segment, UV-inkjet and inks for indirect and direct food packaging are the current high-flyers. In plastics applications, automotive interiors are also expected to grow by 10% and more per year, with haptics trending very strongly (e.g. soft touch).
We are also seeing an acceleration in the shift of technology towards LED curing in the graphics and wood segments and the use of water-borne UV products for plastics applications. Finally, some allied segments, such as 3D printing, are still enjoying double-digit growth.

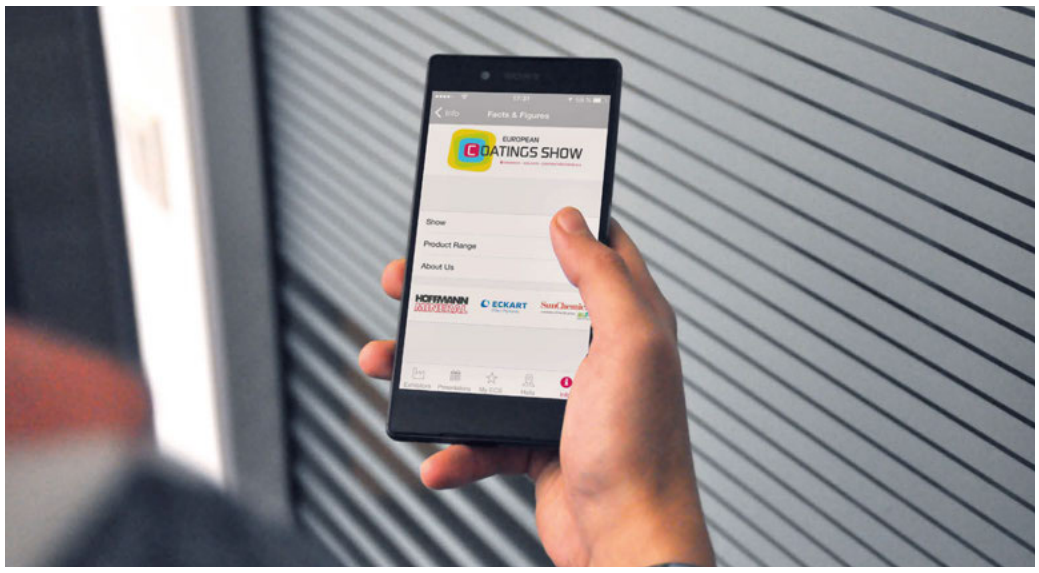


What is R&D mostly focusing on at the moment?
Global product registrations, substrate changes, sustainability and lower costs are the challenges facing the rad-cure industry. Customers want products that comply with global regulatory requirements before they will consider them – yet some of their requirements (e.g. Swiss, Nestlé) can change from year to year. Allnex has invested a great deal of time and energy in ensuring compliance, conducting toxicity/migration tests and the ability to follow GMP protocols. Flexible substrates are providing opportunities to work on adhesion and stain/scratch resistance properties without loss of flexibility. The drive for sustainability is pushing technology towards low-energy LED curing and bio-renewable products. The costs of UV technologies are coming down as it becomes more difficult to produce ground-breaking UV coating technologies, as baseline expectations rise and as more competitors enter the market. Allnex's approach has been to provide fit-for-purpose solutions that meet our customers' needs at the cost required.

VISITOR SERVICE

GET THE ECS ON YOUR SMARTPHONE!

App and website provide help and information



The European Coating Show app is available for Android and Apple smartphones and tablet computers.

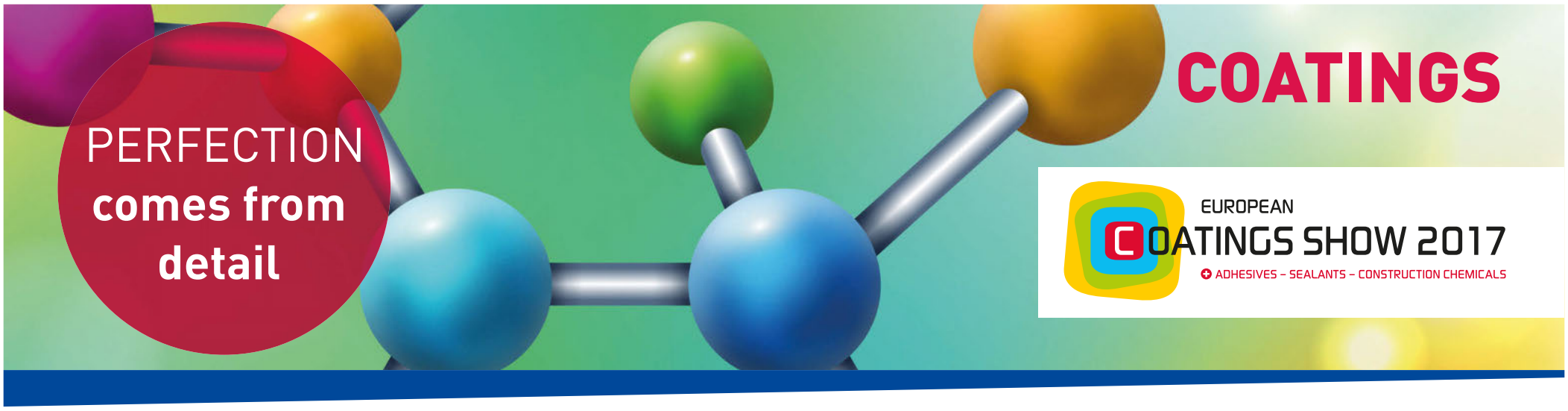
Smartphone app, website and more: The European Coatings Show offers multiple ways of digital assistance for your visit. Of course, all of them are free of charge.

Getting around at a big trade fair like the ECS can be stressful. You have to manoeuvre your way through multiple halls filled with booth after booth and past all the people blocking your path. As if that weren't bad enough, you also have to lug lots of paper around with you. Every time you visit a stand, you come away with more and more information material. A flyer here, a complete catalogue there – it all adds up.
Fortunately, the European Coatings Show app allows you to get rid of at least some of the paper. The app provides a complete list of all exhibitors and a fully digital map of all stands, enabling you to navigate your way around the exhibition area as smoothly as possible, without the need to consult printed maps and the like. It also allows you to conduct an advanced search for exhibitors and to list them by country, product category, hall, and alphabetically.
The app also comes with a digital timetable for the European Coatings Show Conference and lists all the presentations and when and where to find them.

VISIT THE WEBSITE

A wealth of information can be found on the European Coatings Show website. Exhibitors can browse through information on travel as well as materials about applications, exhibition marketing, presentations and services. Visitors will find information on tickets and services and tips for travelling to and from Nuremburg, accommodation and what to see in the city.

More at:
www.european-coatings-show.com



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30062 Hannover · Germany
T +49 511 9910-033
info@european-coatings.com

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