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December 2012

## “Success story will continue”

Preliminary figures for ECS 2013 point to further growth of the world's leading coatings show



Source: Heiko Stahl

*The European Coatings SHOW is the place to be for everybody from Europe and beyond who is involved in the coatings industry*

**The Exhibition Centre Nuremberg will once again take centre stage, when engineers, developers and decision-makers meet at the world's leading exhibition for the paint and coatings industry from 19 - 21 March 2013. The European Coatings SHOW (ECS) will update them on the latest developments in the production of high-grade and competitive coatings and paints.**

Alexander Mattausch, Director Exhibitions at NürnbergMesse, is convinced that the success story of the European Coatings SHOW will continue in 2013. “Growth has already become apparent in all key figures. This is not just the result of a good and proven show concept, but also an indicator for the success of the industry”, says Mattausch. “We also expect consistent high quality with regard to the show visitors. Next to the large and

important raw materials section, we pay a lot of attention to lab and production technology as well as testing and measuring. We intend to promote these areas continuously, which will be reflected in the central positioning of companies representing these sectors on the fairgrounds.” Amanda Beyer, Head of Coatings Events at Vincentz Network, is enthusiastic as well: “Again the ECS will be exceeding all expectations. Al-

ready now the record breaking number of 2011 regarding the display area has been topped. Quite certainly this will not remain the only record! I am positive that the ECS 2013 will again prove to be the place to be for everybody from Europe and beyond who is involved in the coatings industry.” More than 900 exhibitors (2011: 887) will present their products on ca. 32,000 m<sup>2</sup> of net display space (30,300 m<sup>2</sup>). Some 27,000 visitors (2011: 26,000) are expected to

visit the three-day-show. In Nuremberg they'll find the whole spectrum of paints, coatings, sealants, construction chemicals and adhesives under one roof.

As usual, the show will be accompanied by the European Coatings Congress, organised by Vincentz Network. International experts will discuss latest developments and trends from 17-19 March 2013. In 2011, 650 participants attended Europe's most important coatings congress. ■



Find complete programme and abstracts at:  
[www.european-coatings-show.com](http://www.european-coatings-show.com)

## What's up!

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## The European Coatings CONGRESS

Introducing a new timeschedule, the European Coatings CONGRESS 2013 will take place from 17 to 19 March, for the first time starting on Sunday afternoon. Europe's most important coatings technology congress will thus provide more valuable time for face-to-face interactions at the European Coatings SHOW. 144 selected papers in 24 ses-

sions will provide a comprehensive overview of latest research in coatings technology. Again, the congress presents the most recent results and industrial developments, covering the full range of processes and raw materials for the formulation of coatings, inks, adhesives, sealants and construction chemicals. ■

## New show and congress features

At [www.european-coatings.com/eccongress](http://www.european-coatings.com/eccongress) visitors can make use of an interactive congress planner and download their personal calendar. Congress sessions can thus be planned in advance. In addition, the free mobile ECS app is now available for iPhone and Android. Pre-congress tutorials will already be offered on Sunday

afternoon, the main congress taking place on Monday and Tuesday. New at the show is a sponsored pavilion for young innovative companies from Germany. The Federal Ministry of Economics and Technology pays up to 80 per cent of the stand rental and construction costs for promising newcomers to the industry. ■



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# Optimised time schedule to benefit attendees

The European Coatings CONGRESS will present latest research in coatings technology

With a new time schedule, the European Coatings CONGRESS 2013 aims at further optimising the benefits of visitors attending both congress and show. The congress will take place from 17 to 19 March. 24 sessions will provide a comprehensive overview of latest research in coatings technology.

For the first time the European Coatings CONGRESS, Europe's most important coatings technology congress will already begin on Sunday afternoon and end on Tuesday afternoon, thereby creating more valuable time for face-to-face interactions at the European Coatings SHOW. Again, the congress presents the most recent results and in-



The congress will offer more than 140 technical presentations dedicated to latest R&D in coatings technology

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dustrial developments, covering the full range of processes and raw materials for the formulation of coatings, inks, adhesives, sealants and construction chemicals. 144 selected papers in 24 sessions will provide cutting-edge technical information intended to advance attendees' thinking and set them up for further innovations.

### 24 parallel sessions

As in previous years, the congress will be organized in parallel sessions under the main themes automotive, epoxy, biobased, insulating, protective, waterborne, architectural, anti-microbial, and wood coatings. Further sessions will be dedicated to printing inks, dispersants & surfactants, measuring & testing, radiation curing, titanium dioxide utilization, adhesives & sealants, construction chemicals, functional materials, polyurethanes, nanotechnology, and weathering testing. Again, the separate session, "Science today – coatings tomorrow", will have a look at what advanced polymer and material science have in store for future coatings systems. As sessions are held in parallel, visitors will be able to move freely between all of them. This concept enables them to compose their individual programme.

### Eleven pre-congress tutorials

Eleven pre-congress tutorials will familiarise attendees with the basics of major coatings technologies. Renowned experts from both industry and academia will discuss the basic concepts and chemistries involved and introduce the latest research findings in their respective coatings area. Topics include marine coatings, epoxy coatings, film formation in latex paints, sustainable technologies, adhesives and sealants, functional coatings, polyurethanes, easy-to-clean coatings, architectural coat-

ings, corrosion fundamentals, and flame retardants fundamentals.

### Poster session

A number of equally interesting poster presentations will complete the congress programme. This highly interactive offer is intended to reinforce scientific exchange and cooperation between companies and research institutions.

### EC AWARD

An expert jury will select the best presentation from the papers submitted for the congress. The prestigious European Coatings AWARD is sponsored by the European Coatings JOURNAL.



Find more information and the complete programme at:  
[www.european-coatings.com/eccongress](http://www.european-coatings.com/eccongress)



Attendees come from all over the world to catch up on latest trends in paints and coatings. 144 high-quality papers have been selected for the congress



# Sustainable and functional

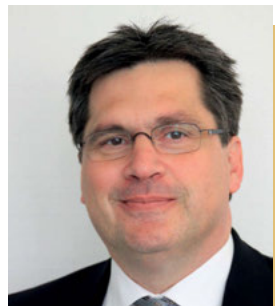
Two keynote speeches to open the European Coatings CONGRESS



Dr Aditya Ranade,  
Lux Research Inc.

A search for the major challenges facing the coatings industry reveals the two most conspicuous catchwords to be sustainability and functionality. There will therefore be two keynote speeches at this year's European Coatings CONGRESS. These will be delivered by Dr Aditya Ranade, Senior Analyst at Lux Research Inc., USA, and Klemens Bartmann, DuPont Performance Coatings, Germany.

Dr Ranade will discuss ways of assessing sustainability in the field of architectural coatings. According to Ranade, architectural coatings consume significant amounts of energy, water, and



Klemens Bartmann,  
DuPont Performance Coatings

petrochemicals during manufacture, and can negatively impact occupants' health and the environment by releasing harmful chemicals. "Sustainable coatings technologies reduce the impact of paints and coatings on energy consumption, resource depletion, and the environment, but often get confused with 'greenwashed' unsustainable alternatives. In this presentation, we reveal a tool for assessing the true sustainability value of established and emerging coatings technologies, and assess the sustainability value relative to the performance value to the end user. While technology development is incremental, disruptive technologies exist that have positive impacts

on both sustainability and performance. There will be few winners based purely on sustainability, unless there are tangible benefits to the end user. We therefore expect such technologies as thermally responsive cool roof coatings, self-healing coatings, and enhanced-hiding-power coatings that reduce material usage to prevail." While the focus of Dr Ranade's presentation will be clearly

on sustainability assessment in architectural coatings, Klemens Bartmann will discuss "Sustainable and functional coatings – challenges and opportunities" in his, the second keynote speech.

## A lot of requirements to be met

"Coatings in state-of-the-art applications have to meet manifold requirements. Not only must they provide protection for all kinds of different substrates, but they must also satisfy the highest of expectations as regards appearance. This will not satisfy the professional users and consumers of the future, though.

Paints and coatings are set to become smart and increasingly functionalized, evolving into high-tech surface coating materials designed to meet extended demands defined by global mega trends. Small carbon footprint, emissions reduction, lightweight capability and process consolidation all lead to sustainability, but could well add to the complexity and cost. Further implementation of environmental regulations will increasingly affect the way we design, produce, package and apply coatings materials in highly competitive market conditions.

This speech will discuss successful approaches for dealing with the various requirements and show how a global player in the coatings industry is turning challenges into opportunities."

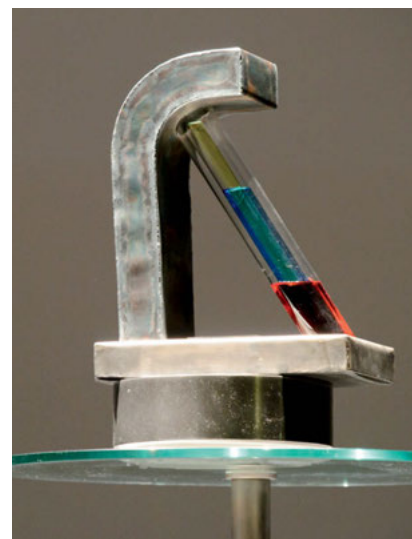
The keynote speeches will be delivered on Monday morning, 18 March, 2013, before the first congress sessions commence.



[www.european-coatings.com/eccongress](http://www.european-coatings.com/eccongress)

## Prize-winning paper

The EC AWARD for the best presentation



The European Coatings AWARD for the best congress presentation

Coatings CONGRESS, the prestigious prize will be awarded during the opening ceremony on Monday morning, 18 March 2013.

The expert jury will select the best congress presentation from the papers submitted for the EC CONGRESS. Sponsored by the European Coatings JOURNAL, the award takes the form of an exclusively designed trophy and comes with EUR 2,000 in prize money.

The 2011 award was given to a team of scientists led by Dr Marc Entenmann, Fraunhofer Institute for Manufacturing Engineering and Automation, Germany.

Innovation, scientific content and relevance are the decisive criteria for the selection of the European Coatings AWARD 2013. As one of the highlights of the European

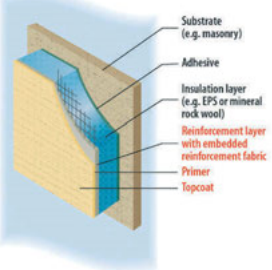
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# Perfect preparation

Pre-congress tutorials will cover the basics of coatings technologies



The pre-congress tutorials will be restricted to 25 participants each to ensure an intense atmosphere

On the day before the EC CONGRESS, eleven pre-congress tutorials will be held to familiarise attendees with the basics of major coatings technologies. These three-hour lectures will take place on Sunday, 17 March 2013.

Renowned experts from both industry and academia will discuss the basic concepts and chemistries involved and introduce the latest research findings in their respective coatings area. Attendees can choose from the following topics:

- » Basics of marine coatings (speaker: Erik Risberg, Jotun)
- » Fundamentals of epoxy coatings (Martin Gerlitz, Huntsman)
- » Film formation in latex paints (Prof. Stuart Croll, North Dakota State University)
- » Sustainable technologies without compromise (Prof. Jamil Baghdachi, Eastern Michigan University)
- » Formulation of adhesives and sealants (Dr Matthias Popp, Fraunhofer Institute for Manufacturing Technology and Advanced Materials (IFAM))
- » Basics of functional coatings (Dr Volkmar Stenzel, Fraunhofer IFAM)
- » Polyurethanes, Simon Waddington (PU Consultant)
- » Easy-to-clean coatings (Prof. Bert de With, Eindhoven University of Technology)
- » Fundamentals of architectural coatings (Dr Christian Schaller, Sto AG)
- » Corrosion fundamentals (Dr Lars Kirmaier, Heubach)
- » Flame retardants fundamentals (Dr Adrian Beard, Dr Daniela Eisenhauer, Clariant Produkte Deutschland GmbH).

In order to facilitate idea-sharing and networking between attendees and speakers, the tutorials will be restricted to 25 participants each. Pre-registration is strongly recommended, as registration will be handled on a first-come, first-served basis.

Armed with the relevant knowledge, attendees will then be perfectly prepared for the European Coatings CONGRESS on the following two days (18/19 March). xz

[www.european-coatings.com/eccongress](http://www.european-coatings.com/eccongress)

## EC CONGRESS

SUNDAY, 17 MARCH 2013

15.00 – 18.30 h

**Pre-congress tutorials 1-11**

MONDAY, 18 MARCH 2013

8.30 – 9.45 h

**Plenary session:**

Welcome address,  
Congress introduction,  
European Coatings AWARD  
Keynote presentations

10.00 – 13.30 h

**Parallel sessions 1-6**

- Session 1: Automotive coatings
- Session 2: Epoxy coatings
- Session 3: Biobased coatings
- Session 4: Insulating coatings
- Session 5: Printing inks
- Session 6: Dispersants & surfactants

**13.30 – 14.30 h Luncheon**

14.30 – 18.00 h

**Parallel sessions 7-12**

- Session 7: Science today – coatings tomorrow
- Session 8: Measuring & testing
- Session 9: Radiation curing
- Session 10: Protective coatings
- Session 12: Titanium dioxide utilisation

**18.00 – 19.30 h Full poster session / After work reception**

TUESDAY, 19 MARCH 2013

9.00 – 12.30 h

**Parallel sessions 13-18**

- Session 13: Adhesives & sealants I
- Session 14: Construction chemicals I
- Session 15: Architectural coatings I
- Session 16: Anti-microbial coatings
- Session 17: Functional materials
- Session 18: Polyurethanes

**12.30 – 13.30 h Luncheon**

13.30 – 17.00 h

**Parallel sessions 19-24**

- Session 19: Adhesives & sealants II
- Session 20: Construction chemicals II
- Session 21: Architectural coatings II
- Session 22: Nanotechnology
- Session 23: Weathering testing
- Session 24: Wood coatings



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# “Eco-efficient processes will act as trend-setters”

Process shortening is in vogue – it requires less energy and materials



Dr Wolfgang Reckordt,  
BASF Coatings GmbH

**Combining primer and base coat in a single coating is a fundamental step on the path to greater environmental friendliness in the future, says Dr Wolfgang Reckordt, BASF Coatings. In our interview he presents an existing tin-free product and talks about a joint venture with Henkel.**

►► **What kind of coating is the most important today?**  
**Dr Wolfgang Reckordt:** In addition to marque and engine size, a vehicle's colour is becoming increasingly important for car owners. It provides an identity and, depending on the hue, lends individuality and character. We work to customer requirements, which lets us develop innovative colour designs independently. For this purpose, we operate our own colour design studio, which maintains close contact with our colour labs to ensure that our ideas are technically feasible.

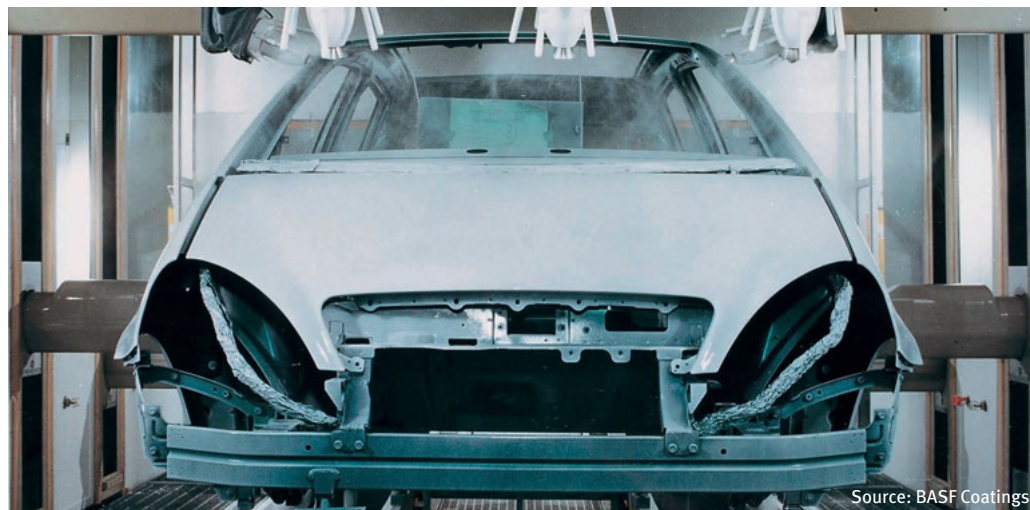
Apart from recent trends like colour design, coating functionality has always been top priority for me. The clearcoat “iGloss”, for instance, is an excellent example of enhanced scratch-resistance. As it is being applied, the organic and inorganic substances combine to ensure long-lasting gloss and greater overall durability. The expertise that underpins the various layers and the understanding of how they interact is becoming more and more important. This know-how is needed to develop shorter processes, for example.

►► **When you look at your developments, what trends do they follow?**  
**Reckordt:** There is a global trend to focus more on sus-

tainability matters. These are very positive changes for my company because we have been adherents of sustainability for a good many years. I think sustainability is not just a trend, but is also a huge opportunity in many ways. The cathodic electrocoats “CathoGuard 800 and 900”,

superfluous in the coating of automotive car bodies, shortening the paintline to boot. Solvent emissions and energy consumption can each be reduced by up to 20 % through eliminating an entire coating and stoving stage. An eco-efficiency analysis bears out these figures.

has eco-efficiency benefit because it saves energy and reduces material consumption. Our research joint venture with Henkel is set up on similar lines. Its aim is to develop products and processes that offer greater benefits in terms of costs, performance and environmental compat-



Source: BASF Coatings

Improving efficiency of e.g. automotive coatings is one solution for more environmental friendliness

for example, are already tin-free in compliance with pending European environmental legislation. Furthermore, they contain less than one percent solvent and are suitable for integrated application processes that combine the functions of the primer in automotive OEM paint systems and basecoat. This innovation can render the entire primer section

►► **What will be the burning issue for future coatings?**  
**Reckordt:** For me, eco-efficient processes will act as trend-setters. Our customers are seeking efficient solutions as a means to ensuring lasting market success. The integrated process I already spoke about, for instance, reduces CO<sub>2</sub> emissions. But not only does it have an environmental effect, it also

ibility than the standard corrosion protection processes. A smaller number of process stages for metal pretreatment and corrosion protection would offer customers extensive benefits in the first phase of automotive painting.

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# “End markets are seeking biobased solutions”

Growing global demand for adhesives – environmental friendliness is a must



Source: Croda Coatings & Polymers

Sustainability is also a hot topic in the adhesion industry

**Improved adhesion and durability are hallmarks of good adhesive performance. However, the technical demands need to accommodate the huge trend in sustainability, says Dr Angela Smits, Croda Coatings & Polymers, The Netherlands.**

## ►► What constitutes outstanding adhesive performance in your view?

**Dr Angela Smits:** Adhesives are becoming more and more important, and are replacing other bonding methods. So, it is essential that they perform well. In our view, outstanding performance is linked to the quality and behaviour of the adhesive. One term to describe this is “high durability”; the industry itself uses the terms hydrolysis resistance, UV and oxidative stability, as well as fatigue resistance. Outstanding performance can also be linked to improved adhesion properties and stronger adhesives. Adhesives are replacing conventional bonding methods as a means of joining dissimilar substrates, e.g. in electronics and transportation applications.

## ►► Sustainability and renewable resources have also become topics for the adhesives sector. How do you view this development?

**Smits:** The fact that a product is made from renewable resources is often used as justification for calling it sustainable, but the term sustainability should be related to the entire product lifecycle. For example, adhesives boost the use of

lightweight materials in such industries as transportation, where they increase fuel efficiency and help to conserve resources – this illustrates the positive impact which adhesives have on the sustainability of these products. Market demand for biobased and sustainable solutions has grown in recent years.

Growing customer interest in biobased materials and further developments in the biobased economy provided the inspiration for our new portfolio of 100 % biobased polyols. A combination of high durability and their 100 % biobased nature makes them a highly sustainable solution.

Sustainability can also be linked to the service life of the end product. There are several applications in which adhesives are expected to endure for decades. The wind and solar power industry is one example where low maintenance is desired. The adhesives here are selected for their fatigue resistance and long-term weatherability.

## ►► Where do you see the future of adhesives – what are the trends?

**Smits:** The adhesives market is a growth market that is following general market trends.

The first influential factor is the growth in the world’s population, coupled with increased wealth, especially in the developing countries. This is stimulating growth in end markets, such as

transportation, construction, packaging and electronics. The second driver of growth is scarcity of raw materials, combined with rising energy demand of the growing world population. This is stimulating environmentally friendlier solutions. Adhesives play a major role in several end markets for developing sustainable solutions.

Waterbased and 100 % solids or reactive systems are lowering the use of VOCs. End markets are continually demanding better performance from adhesives that will extend the service life of the end product and open up new applications. They are also explicitly seeking biobased solutions, decreased dependence on scarce raw

materials and improvements in carbon footprint. And, finally, one ongoing process is the use of adhesives to replace traditional bonding methods. Here, the industry is faced with the challenge of bonding disparate and novel substrate materials together.



Dr Angela Smits,  
Croda Coatings & Polymers



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# “Regulation can also serve as an impetus for innovation”

Changing regulatory rules are challenging suppliers to the printing inks industry



Tony Carignano,  
Cytec Industries



Paul Gevaert,  
Cytec Industries

**Tony Carignano, Global Marketing Manager, Packaging Coatings & Inks, and Paul Gevaert, Application Technology Engineer for Cytec Industries Coating Resins Business, discuss recent developments in raw materials for printing inks.**

►► **What recent developments are the most interesting in the field of printing inks?**

**Tony Carignano/ Paul Gevaert:** The most interesting and recent developments that our radcure business is keeping a close eye on include: UV-LED technology, Landa Nanography, the usage of UV waterborne digital inkjet for board and paper applications, the usage of hybrid technology printing, and the consistently changing regulatory rules relating



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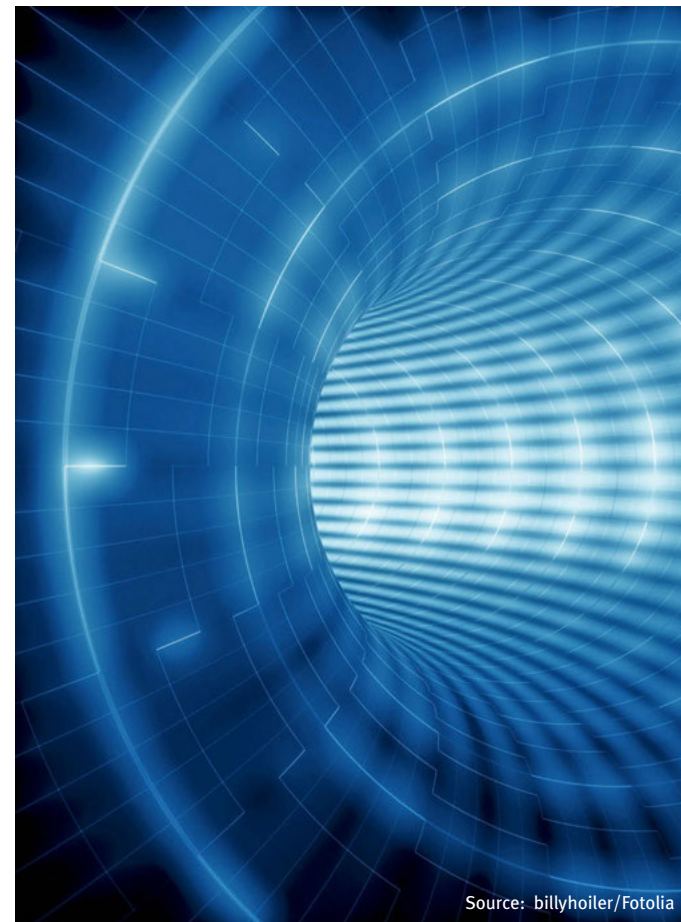
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COMPETENCE IN COLOR



Source: billyhoiler/Fotolia

Energy curable materials have made significant inroads in the printing inks industry

to chemicals of concern in industrial and consumer product packaging. Additionally, low migration for indirect food packaging remains high priority especially in Europe. UV-LED technology has come a long way over the past five years in terms of cure speed, affordability and ease of use. Outside of non-pinning applications, much cooler lamp operating temperatures could be an enabler for the proliferation of sensitive bio-renewable substrate species in consumer product packaging. As several members of our coating resins packaging coating & ink development team saw during “Drupa 2012”, the usage of combination printing, such as digital inkjet hybridized with flexo/ litho applications, has increased significantly over the past four years. Constantly changing regulatory rules are not going away anytime soon. It is for this reason that we are in continuous pursuit of chemical building blocks and new potential suppliers which offer cleaner, safer and environmentally friendly formulary ingredients which are in alignment with the changing regulatory rules.

►► **How can the current challenges (transition to digital, raw material shortages, etc.) be overcome?**

**Carignano/Gevaert:** As a supplier of energy curable resins to the printing ink and coating industry, the greatest current challenge faced by the market is addressing and complying with regulatory concerns, issues and restrictions surrounding raw material ingredients such as BPA and Benzophenone. The challenges mentioned above are inherent to the consumer product packaging market. Although at times very challenging, regulation can also serve as an impetus for innovation.

►► **What solutions for printing inks are you currently working on?**

**Carignano/Gevaert:** Our coating resins business is engaged in several areas of energy-curable ink and coating application innovation. Current activities include the development of chemical of concern free binder systems for printing on plastics. Solutions in this area include resin systems for low migration inks and inks with robust adhesion to a variety of plastic substrates, including these based on renewable raw materials and recycled plastics. We are also active in developing a second generation of low migration resin systems for indirect food contact with adhesion to flexible and rigid plastic substrates.

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# “Create products that have long life cycles”

Sustainability is necessary for environmentally friendly buildings



Source: Deutsche Amphibolin-Werke von Robert Murjahn Stiftung & Co. KG

A high contrast between environmentally friendly buildings on the one hand and houses with paper-thin walls on the other leads to different expectations towards construction chemicals

**Where do you see the future of construction chemicals – what are the trends? The influence of sustainability will increasingly influence our way of thinking in the decades to come.**

**Walter:** From that point of view, there are two emerging trends: the first, immediate trend is to create products which have long life cycles. All things considered, few things make a

product as sustainable and environmentally friendly as a long life cycle. Even if this product might require more resources during manufacturing. The second, rather long-term trend is to integrate raw materials from secondary, regrowing feedstock into construction. Materials from primary feedstock usually compete with food production and are socially unacceptable.

However, we realise that they are probably a necessary step towards more desirable materials from secondary feedstock. While the actual number of raw materials from regrowing sources in our company is still comparatively small, more and more suppliers are starting research in this field.



Dr Christian Walter,  
Deutsche Amphibolin-Werke

**Dr Christian Walter, Deutsche Amphibolin-Werke, talks about the best raw material developments, effects of sustainability and the future of construction chemistry.**

►► **What do you consider the best developments for construction chemistry?**

**Dr Christian Walter:** The introduction of passive houses, though I have to admit that construction chemistry is not the only branch of our business to be credited for this achievement; it should be considered a combined effort. But why should these houses be among the most remarkable developments? We tend to see advanced technology only in things that are obviously high tech. During my time in Japan, I came to realise that, although we consider this country to be a well-developed nation, the people are unbelievably far behind in insulation technology: mostly, you will find single paned windows and, sometimes literally, paper-thin walls. When I told the Japanese about passive

houses and ETICS available in Europe, some of them flat-out refused to believe this to be possible.

►► **Sustainability has become an increasingly influencing topic in this chemistry. How does it affect your projects/your company?**

**Walter:** The concept of sustainability is, of course, much more than simply being more friendly to the environment. It is about a thorough, deep understanding of what you are doing and how it affects your surroundings. And what you can do to minimise adverse effects. For example, look at the recent debate on replacing conventional light bulbs with energy saving light bulbs. Regardless of what you think of this discussion, if you look at a typical domestic home, it is evident that heating is, by far, the most influential contributor to total energy consumption. And that you need to address this problem efficiently if you really hope to have an impact. So, necessarily, sustainability is a major concern. However, we still have a long way to go before we have accumulated all necessary data. You come to realise just how difficult this is when you consider that the Titanium Dioxide Manufacturers Association just recently released exact numbers on the carbon footprint of titanium dioxide. They were determined but still it took them nearly two years because they wanted to do a good job and the task is incredibly complex.

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# “Comprehensive and consistent data are crucial”

Tracking carbon footprint and product life cycle

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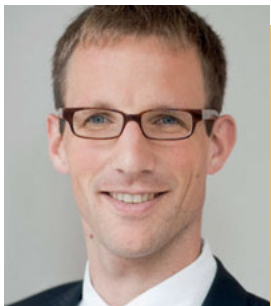
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Monitoring and measuring carbon footprint and product life cycles are complex processes, both for chemical companies and their customers. **Thomas Engenhorst**, Strategy & Projects, Coatings & Additives at Evonik Industries, explains some of the challenges, describes how a company can help its customers, and gives examples of the progress made over the past few years.



Thomas Engenhorst,  
Evonik Industries

►► **What are the greatest challenges in monitoring and measuring carbon footprint and life cycle in the coatings sector?**

**Thomas Engenhorst:** Numerous players contribute their intellectual property to coatings, in terms of both processes and formulations. Thus the availability of con-

sistent and comprehensive data throughout the value chain is of particular importance. Methodological issues arise, due to definition of application or usage scenarios, for instance. Furthermore the introduction of “just another” – and rather complex – tool creates mental hurdles.

►► **How can a coatings raw materials company help customers to reduce the environmental impact of their products and processes?**

**Engenhorst:** Throughout a product’s life cycle, customers benefit from reduced raw material impact, solutions for efficient in-house processes and the development of environmentally advantageous formulations and applications.



Source: FikMik/Fotolia

The coatings industry has optimised technologies such as waterborne, powder and UV coating, in order to make them more sustainable



Source: Evonik

On the right track: measures to reduce carbon footprint are designed to bring benefits today and tomorrow

►► **What progress has been made over the past few years in making technologies more sustainable in the coatings sector?**

**Engenhorst:** Waterborne, powder, high-solid, UV and 2-component coatings have

been optimised, enabling reduction of emissions, for instance. In the road marking industry, for example, new 2-component cold plastic technologies provide long-lasting structured safety markings with low carbon footprint.



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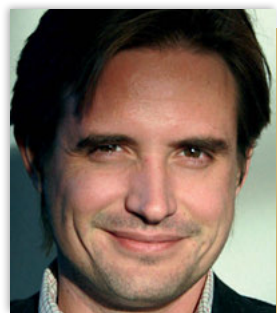
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# “Exchanging ideas and exploring new contacts”

EC SHOW exhibitors express their expectations

The majority of exhibitors at the European Coatings SHOW are “old stalwarts.” But plenty of new companies and institutes sign up as well, seeking to take full advantage of the ECS’ vast opportunities for making new contacts and exhibiting products. We asked both frequent guests and first-time exhibitors about their expectations.



Gijs Cremer Eindhoven  
Aako BV

“Aako BV supplies high-performance dispersants, defoamers and levelling agents for ink, coating, and composite applications on an

exclusive basis for Tianlong Chemicals Co., LTD. Based on our three pillars: high-quality service, long-term business relationships and a thorough knowledge of products and markets, we expect to gain further exposure to the industry. We regard the ECS as an excellent platform to introduce ourselves to new customers as well as to further strengthen our existing customer relationships. Last but not least, it will enable us to position our company as an innovative and proactive partner.”



Beat Windler  
Impag AG

“Impag is a Swiss distributor that has enjoyed the trust of generations of customers. Having visited the ECS for many years, this time we decided to have our own booth so that we can engage with

customers and suppliers – existing and prospective – in a direct and customised way. The ECS is the premier international coatings forum for the entire sector to come together and share the latest advances in technologies and to exchange ideas and explore new business model concepts. Attendees will be able to explore our full portfolio of choice products. In particular, we will be showcasing products from three of our exclusive innovative suppliers – Dynax, eChem and Epocat – with the support of their technical experts.”



Dr Markus Moeller  
Rockwood Additives GmbH

“Rockwood Additives is a leading global supplier of high-performance rheology modifiers. We expect people from all over the world will come and share information with us at the European Coatings SHOW. It is through intensive dialogue with our customers that we learn what the require-

ments of the future will be, both technically and from a legal and regulatory standpoint. We see the ECS as an exciting opportunity to interact with customers and formulators from both mature and emerging markets, to gain a better understanding of customers’ needs and to help us understand and follow new market trends. Moreover, we consider the ECS provides an excellent platform for making the broader public aware of our latest developments in rheology modifiers, pigments and driers, which were launched recently. Our sales and technical service teams will be available for technical discussions.”



Thomas L. Nielsen  
R2 Group A/S

“We hope to meet many new potential customers, as well as existing customers, to discuss future business opportunities. In addition to focusing on the price level, customers will expect us to be able to add value to their business. We also expect to see more producers from Asia seeking outlets for their products within the EU.

We are at a crossroads now as regards the Biocidal Products Directive (BPD), which will see some suppliers eliminated from the market due to the financial burden of product registrations. We are confident that those who are interested in framework recipes along with a full data package and all approvals within the EU will

find our concept in this area highly attractive. We expect to have our new formulations for film preservation and wood protection within the paints and coatings sector ready for the ECS. In addition, we will also be offering our existing programme of raw materials for various industrial applications, including paints and coatings.”



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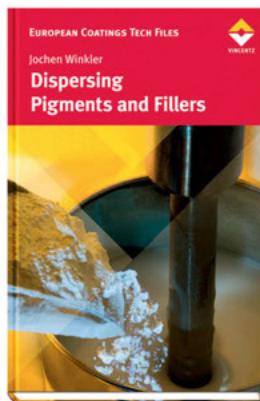


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[www.european-coatings.com/books](http://www.european-coatings.com/books).



## Dispersing Pigments and Fillers

This book by *Jochen Winkler* provides a fundamental understanding and grasping of the dispersing process – the pivotal step in paint production. From wetting of the solid surface, through

mechanical destruction of the pigment agglomerates to stabilisation of the resultant particles against flocculation.

An indispensable basis for understanding the dispersing process as a substantiated, scientifically proven technique. It brings together the substantive knowledge of the physico-chemical

principles behind the three separate steps involved in dispersing. Models are developed to enable the informed user to identify problems as they arise and to quickly rectify them. As well as being provided with all the necessary theory, the reader benefits from the wealth of practical advice distilled from the author's vast experience.

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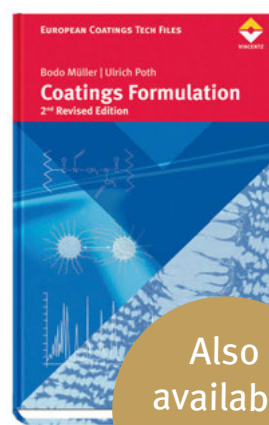
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## Coatings Formulation 2nd Revised Edition

The new 2nd revised edition of this reference work by *Bodo Müller* and *Ulrich Poth* provides detailed explanations of new recipes and paint formulations in two steps: it opens with a look at the composition of coatings, placing special emphasis on the base

binder in each type. Advice on specific formulations is then given before formulation guidelines are analysed. Throughout, the focus is on coatings formulation and how to arrive at the final recipe. A special feature of the book is its detailed index, which allows the reader to conduct targeted searches for specific aspects of coatings formulation.

All calculations based on recipes and formulations are worked through step by step and should therefore be intelligible to beginners, as well. "Coatings Formulation" familiarises laboratory assistants, engineers and chemists with the practice of formulation paints, presupposing a basic knowledge of chemistry, binders, pigments and additives. It also serves as an important reference work for all readers interested in paints and coatings.

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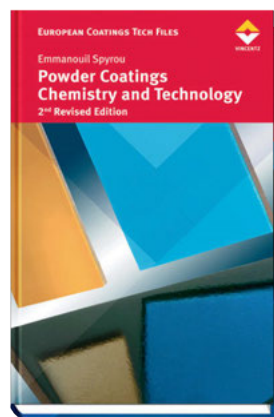
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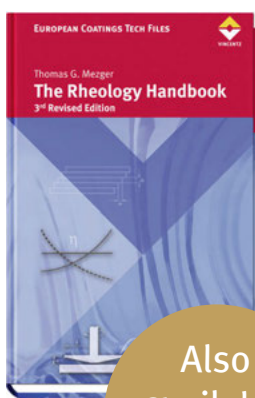


### Powder Coatings Chemistry and Technology

3rd Revised Edition

All about powder coatings in one book – from the current market situation and REACH to the various types of powder coatings, raw materials, pa-

rameters affecting the properties of powder coatings, production and application technologies. The reader thus gains a current overview of this important class of coating systems. Indispensable for everyone who comes in contact with powder coatings in their daily work. This third, completely revised edition by *Emmanouil Spyrou* provides an up-to-date and deep insight into the key aspects and theories behind the production, properties and applications of powder coatings. More than 5,000 current literature references and patents have been evaluated to ensure that it illustrates the current state of the art. Highlighted core terms and a greatly expanded index ensure that any given topic can be found directly and quickly. ■



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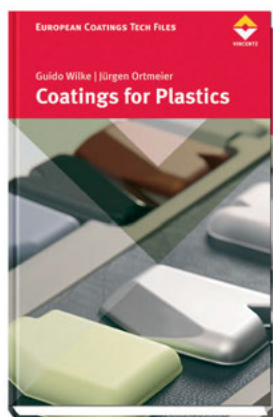
### The Rheology Handbook

3rd Revised Edition

This book by *Thomas G. Mezger* describes the principles of rheology clearly, vividly and in practical terms. It contains the theoretical principles as well as practical instructions for material characterisation tests. The third edition of this standard work has been expanded to include the rheology of additives in waterborne dis-

persions and surfactant systems. Not only it is a great reference book, it can also serve as a textbook for studying the theory behind the methods. The practical use of rheology is presented in the areas quality control, production and application, chemical and mechanical engineering, materials science, and industrial research and development. After reading this book, the reader should be able to perform tests with rotational and oscillatory rheometers and interpret the results correctly.

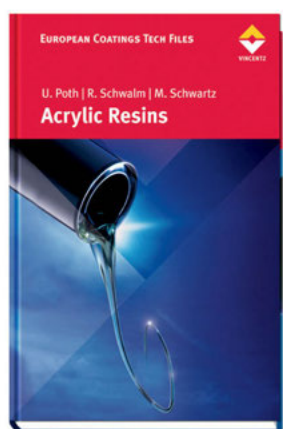
This prestigious course book is written for everyone approaching the field of rheology without any prior experience, but it is also useful to people wishing to update their expertise with information on recent developments. The numerous cross-references make connections clear and the detailed index helps when searching for specific information. ■



### Coatings for Plastics

This book by *Guido Wilke* and *Jürgen Ortmeier* presents the technology of coating plastics in a broad and integrated mode, treating both the single influence fields and their connections. One focus is set on the plastic substrate itself. Substrate topics are then connected with coat-

ing relevant plastic processing aspects and surface pre-treatment methods. The chapter of coating materials presents a broad portfolio of modern formulation and layer concepts, their main characteristics with respect to end users requirements. Concise yet comprehensive, this highly topical book offers in-depth knowledge and a multitude of practical tips, e.g. for safeguarding the quality of the coating film, and for developing high-performance coatings for plastics. The main emphasis is on the properties of plastics and the materials used to coat them. A special feature of the book is a separate chapter devoted to the topics of typical coating flaws, analytical and test methods and precautionary measures. ■



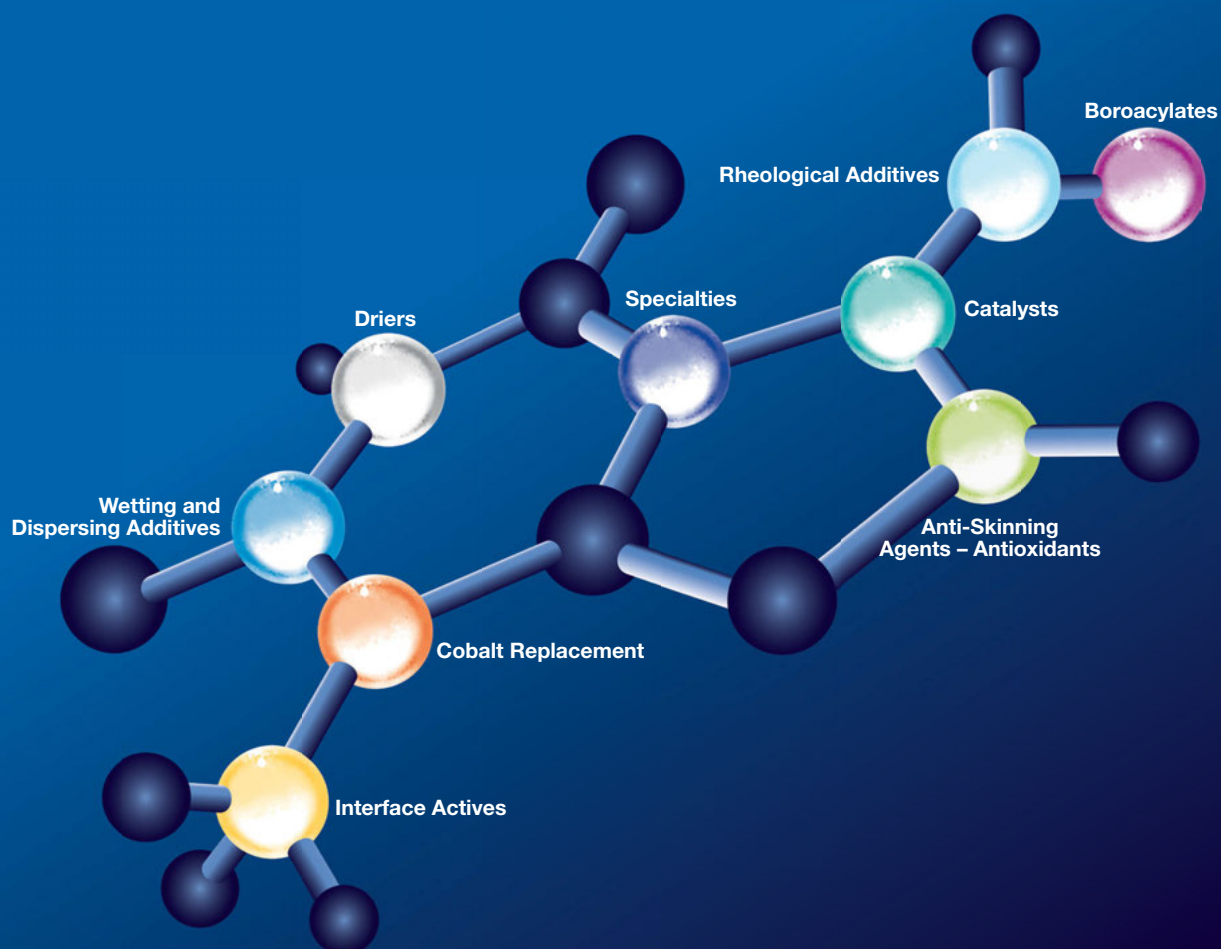
### Acrylic Resins

The book by *Ulrich Poth*, *Dr Reinhold Schwalm* and *Dr Manfred Schwartz* describes the latest knowledge about acrylic resins in solventborne and waterborne systems, and for radiation curing in an un-

derstandable and descriptive manner. It discusses the different chemical and physical aspects of the production methods and the related application properties. Furthermore the reader receives an overview of the production, properties and application of acrylic resins and their distinctive features.

This book gives a deep insight into the key aspects and theories behind the production, properties and applications of this class of binders. It offers a clear and vivid overview of the current status of the use of acrylic resins in various paint systems. Extensive references are provided for those who seek to pursue individual topics in greater depth. ■

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# “Demand for higher mechanical and chemical resistance”

Functional coatings: soft surfaces and high strength



Dr Torsten Pohl,  
Bayer MaterialScience

**Soft-touch, easy-to-clean, self-healing and natural-touch are amongst the numerous functional coatings in demand today. Dr Torsten Pohl, Head of Development for Waterborne Dispersions for Coatings and Adhesives at Bayer MaterialScience, describes their properties as well as the challenges involved in achieving them and explains what is meant by a “green” functional coating.**

►► **When do you apply the description “functional” to a coating? Aren’t all coatings functional in some way?**

**Torsten Pohl:** There is no universally accepted definition of the term “functional coatings” as far as we are aware. The majority of coatings are used for protective and/or decorative purposes. If a coating provides any

functions in addition to those, then we usually call it functional.

►► **What functional coatings are especially in demand today and what are the main challenges in achieving them?**

**Pohl:** Waterborne, “soft-touch” coatings providing a pleasant haptic sensation




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**18 March 2013; 10:00 - 10:30 h;**  
Session 3: Biobased coatings  
Improved polyester coatings with sugar derived biobased building blocks.

**19 March 2013; 9:30 - 10:00 h;**  
Session 13: Adhesives & Sealants  
Sustainable building blocks for performance adhesives.

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are now well-established in the automotive interior and are also used for 3C devices such as computers, cell-phones and consumer electronics. Easy-to-clean coatings are an efficient means of protecting the surface of railway carriages, buildings, etc. Waterbased two-component systems made from raw materials allow easy removal of graffiti and provide high mechanical and chemical resistance. Self-healing coatings are another major development. A close-meshed yet flexible molecular network enables these polyurethane coatings to heal damage such as scratches. They are thus

highly suitable for automotive top coats, for example. A special wood coating with excellent adhesion, wood-protection properties and stain resistance can be used to provide a wood-like natural touch. Today, functional coatings are also used for breathable textiles with high wear comfort and good weather resistance. Coated transparent (e.g. polycarbonate) films provide special light management effects. Even cosmetics can to some extent be regarded as functional coatings when poly-urethane dispersions are used as film-forming components for applications such as colour cosmetics, skin care



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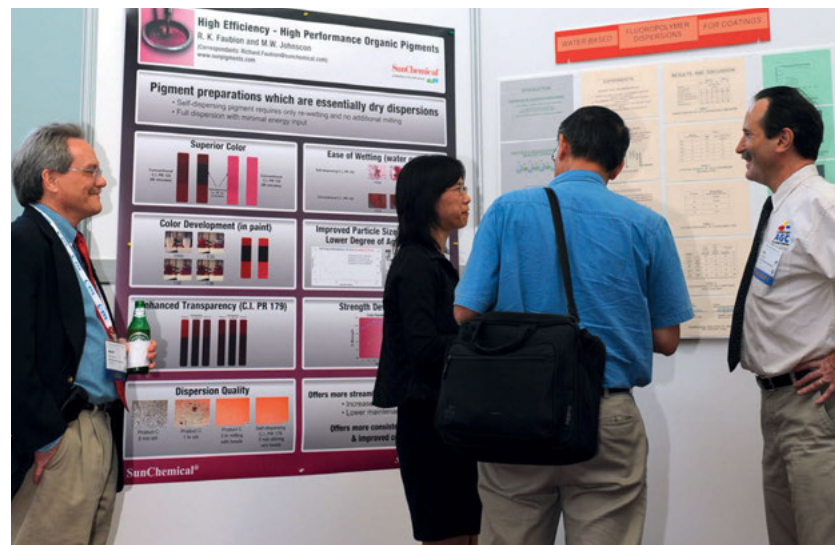


## Highly interactive

A full poster session will be held after the oral presentation programmes of the first day of the EC CONGRESS. Posters will be on display in the congress area, and poster contributors will be available to explain and discuss their results to interested delegates during this session. Eminent authors from international institutes, universities and from the coatings industry will field questions from interested participants. At this stage, there will be 16 posters on display, one of which will

be entitled "A new waterborne resins portfolio for decorative and industrial coatings meeting TVOC and indoor air quality requirements" by *Dr Jaap Akkerman*, Nuplex.

*Dr Alejandro Perez*, Chem-speed Technologies, will present a poster on "Automated high-throughput/high-output experimentation in paint and coating product development". *Dr Wei Zhuang*, Bayer Material Science, will discuss "Designing rubber elastic UV curing resins based on urethane technology".



Poster contributors and attendees will have the opportunity to discuss recent research results



Source: Rolf König

or hairstyling products. The challenges in producing coatings such as these include an ever-increasing demand for higher mechanical and chemical resistance. It is particularly important to strike a balance between soft surfaces and high resistance. Furthermore, all the requirements need to be achieved in an environmentally compliant, sustainable way: VOC content, for example, must be low or even zero.

### ►► How would you define a "green" functional coating?

**Pohl:** We focus our research and development activities on green and still more sustainable solutions for markets and customer needs. A "green" functional coating is characterised by a low or zero VOC/co-solvent content, as achieved in waterborne or UV-coatings, for example. Formulations without hazardous chemi-

cals, such as NMP and NEP, could also be described as "green". But this is by no means everything. A major focus today is coating technologies that require lower drying temperatures and reduced drying times, thereby increasing energy and processing efficiency. Internal chemical activation of the polyol component of waterborne 2K polyurethane coatings is a special technology that speeds up curing without sacrificing pot life, ensuring optimal control of the crosslinking and drying process. Current developments for polyurethane dispersions for a number of applications are based on renewable raw materials. Overall, a great deal of effort today goes into developing sustainable coating solutions (including cradle-to-grave analyses) and reducing carbon footprint.

### FUNCTIONAL MATERIALS

Visit session 17 of the congress on Tuesday morning, 19 March 2013

with the presentation by Carina Deschamps, OMG Borchers, DE

10.00 - 10.30 h

"Additives for permanent hydrophobic and easy-to-clean effects"

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# “Balancing cost efficiency with performance”

Protective coatings: new technologies such as particle functionalisation are important tools for coatings customers



Milan Wilhelm Krumbe, Sachtleben

**Adaptability to climatic fluctuations, environmental compatibility, and a balance between cost efficiency and high performance are amongst the factors that influence the formulation of protective coatings. Milan Wilhelm Krumbe, Director Segment Coatings at Sachtleben, describes ways in which these can be achieved.**

►► **What is required of protective coatings today and what challenges do manufacturers face in meeting current needs?**

**Milan Wilhelm Krumbe:** The requirements for protective coatings depend on the application field and can be divided into product properties and processability. In general, formulations are dictated by the need for protection against environmen-

tal stresses. Corrosion and scratch resistance, protection against UV radiation and high durability, but also appearance and viscosity, are typical properties that need to be controlled. In addition, it is important to understand the value chain of markets, as well as limitations and conditions regarding processability. The role of raw materials and products in end applications and the impact



Corrosion and scratch resistance as well as protection against UV radiation prolong the life and enhance the appearance of cars

on product life cycle need to be understood with regard to sustainability as well.

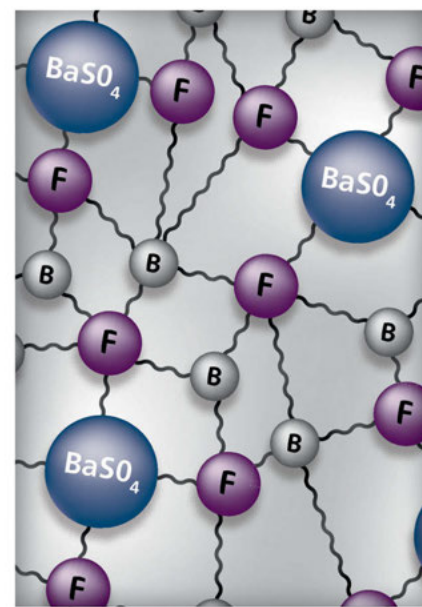
►► **How can protective coatings contribute to sustainability in the coatings sector?**

**Krumbe:** Sustainability starts with the manufacturing process of raw materials, e.g.  $\text{TiO}_2$  or Zn/Ba pigments. Carbon footprint control, zero-waste production and the utilization of natural resources, for instance in power stations, are examples of how sustainability can be managed successfully. New technologies such as particle functionalisation are important tools for coatings customers, as they allow the formulation of high-solid systems with low VOC content, more stable waterborne systems and enhanced powder coatings systems. It is crucial today to strike a balance between cost-efficient solutions and performance, as is achieved for example by a new  $\text{TiO}_2$  technology based on thin coating layers.

►► **As climates change, how can protective coatings be developed/adapted to allow for varying conditions in different regions?**

**Krumbe:** Climate change makes highly durable protective coatings necessary. Fluctuations between low and high temperatures are a challenge for coatings applied

on aircraft, for example. Another challenge is the salty sea water to which craft units located in the North Sea are exposed. In order to formulate suitable coatings, the interaction between pigment and resin needs to be understood. The key is to provide a strong coating network density with the required flexibility, using relaxation properties, so that coatings systems are able to adjust to environmental changes. The mechanism of pigment surface and resin interface plays an important role in this context. A new particle functionalisation technology now allows us to steer and control these properties to a large extent.



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Functionalised particles allow coatings properties to be steered and controlled

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# Setting trends in the coatings world

Sector highlights at the European Coatings SHOW 2013



Source: Rainer Sturm/Pixelio

Sustainability will be the hot topic at the ECS 2013

**What will drive the coatings world in the near future? What impact is environmental protection having on the latest coatings systems? Exhibitors at the European Coatings SHOW 2013 will supply the answers.**

Manufacturers of raw materials and production equipment from over 40 countries will be presenting their latest developments, products and solutions for different coatings requirements.

## Sustainability – the hot topic

First and foremost, as *Lars Kirmaier*, Heubach GmbH, Germany, explains, “the coatings industry will focus on products conducive to the manufacture of high-performance, cost effective and sustainable paints that will comply with current and future regulations.” Environmental protection has grabbed the industry’s full attention and is exerting a

substantial influence on developments. “We see a trend towards more sustainability that is manifested in greater usage of biobased raw materials and waterborne systems, accompanied by a growing need for performance which at least rivals that of traditional raw materials,” says *Eric Brouwer*, Croda Coatings and Polymers, who is certainly not the only one to hold that opinion.

*Stephane Champlong*, Vencorex, is more specific about the direction which developments might take as a result of these environmental protection goals: “I see two major trends: first of all the constant need for more environmentally friendly systems and particularly the development of solvent-free and high solid coatings formulations. Furthermore the impact of regulations and new labeling, leading customers to look for safer answers: the replacement of aromatic MDI-based systems in some applications is an example. Providing solutions is our focus at the ECS 2013.”

## Major trends in raw materials

Additives, fillers, binders and nanomaterials will all feature at the show. And so will pigments, where there is a strong trend in support of sustainability. “The trend will head in the direction of elegant metallic colours with new pigments of extraordi-

nary appearance, combined with functionality, such as IR reflectivity, energy savings, chemical resistance and a strong focus on eco-friendly chemistry and application. Besides colour, there will be a growing focus on the haptic properties of the finished coatings,” observes *Paer Winkelmann*, Eckart GmbH. There will also be pigments

on display that are intended “especially for powder coatings. Furthermore pigments which accelerate the conductive coating for plastic add ons of automotive body parts of bright coatings with the same colour as the metallic body parts. Bright coloured

shades will be available for inspection in the form of a stone carpet, just one of our vivid eye-catchers,” says *Daniel Lenhart* of Merck KGaA. ■



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*....friendly colour artists...*



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Looking back on  
the ECS 2011 –  
a picture collection

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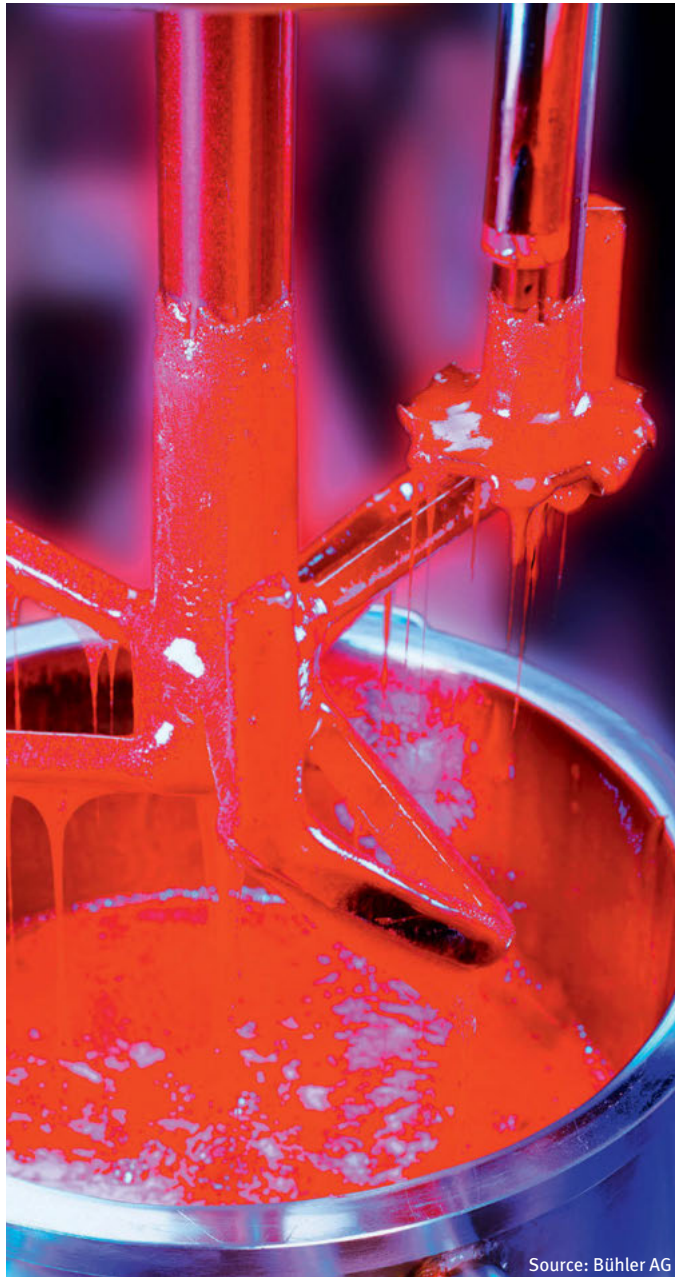


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# “There will always be room for skilled personnel”

Production technology is becoming environmentally friendly, thanks in part to automation



Source: Bühler AG

Production technology adapts to new chemistries that follow the trend of environmental friendliness

► It has been said that IT kills employment, but IT is by nature very sensitive and so requires the services of skilled personnel with their valuable experience. Will this still hold true in the future?

**Kern:** Let's be honest about this – the purpose of IT and automation is usually to reduce overall costs and hence lower overall employment, especially in countries with high labour costs. Another

important function of IT and automation in the coatings manufacturing process is to provide reliability and – let's not forget this, either – the traceability of high-value coatings.

There will always be room for skilled personnel. A system can only perform well if it is properly operated and optimised. IT merely helps to maintain standards and ensure repeatability.

► Do you see big regional differences, especially between North America/Europe and Asia?

**Kern:** From an equipment supplier's point of view, there is a clear need for high production capacity in Asian countries, especially China and South East Asia. North America and Europe are different and tend to require smaller systems for specialties and niche products. My company has reflected

this by equipping laboratories differently in Europe, North America, China and Japan. For example, in China, we have lab-size to small-production-size equipment for production-size testing and scale-ups. In New Jersey, USA, and Yokohama, Japan, however, we tend to concentrate more on small laboratory equipment to support our customers with process development and scale-up testing for new materials. ■



Norbert Kern,  
Bühler AG

Broadly speaking, whereas Asia is all about mass production, in Europe and America, the employees are valued for their expertise in niche production operations. Ultimately, preparations need to be made here for the growing swell of waterborne coatings and high-solids systems, says **Norbert Kern**, Bühler Group, Switzerland.

► How does the trend towards environmentally friendly products affect production technology?

**Norbert Kern:** On one hand, converting from solvent-borne to waterborne products means that production areas can be rezoned from explosion to non-explosion zones. The result is lower investment costs and simplified production. On the other, waterborne systems have different requirements with regard to grinding and dispersing machines as well as peripheral equipment. For example, although process chamber materials might not need to be as hard, they may have to be more corrosion resistant, because new coatings formulations can occasionally be very aggressive. Generally speaking, environmentally friendly production is possible with existing technology. The exception here is products whose morphologies are drastically altered, as happens in the manufacture of high-solids coatings.



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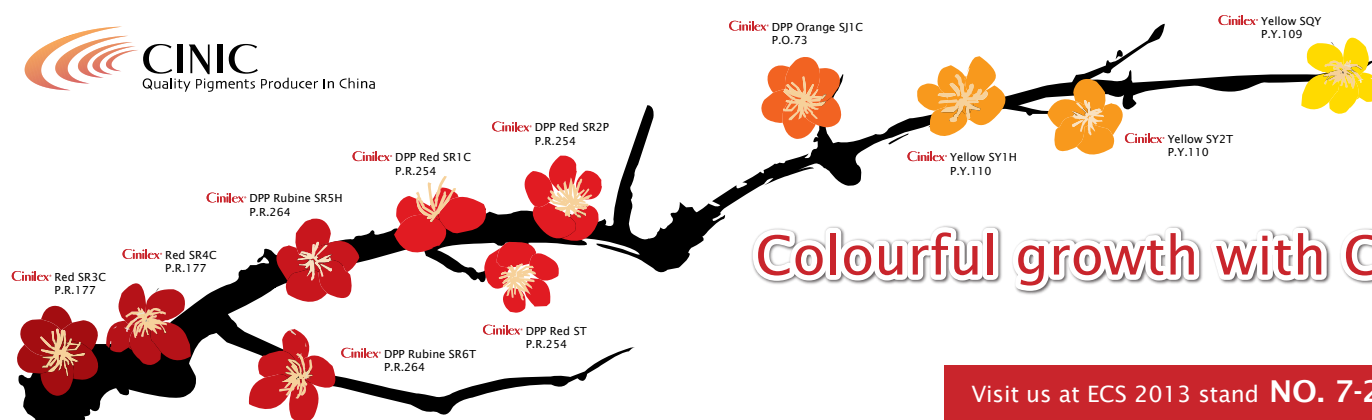
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# “Growth of high-solids and waterborne clear coats”

Developments in automotive coatings are geared to greater efficiency and environmental acceptability



Francis Defoor,  
Momentive Specialty Chemicals

**The latest trends in automotive coatings are driven by the demand for high performance combined with cost efficiency and the need for emission management.** Francis Defoor, Global Market Segment Leader Transportation, Momentive Specialty Chemicals, describes ways in which the objectives can be achieved.

## ► What are the key drivers in automotive coatings?

**Francis Defoor:** As a supplier of various resins and functional monomers to the automotive coating industry, we continue to see numerous developments designed to lower the overall cost of paints for new vehicles. Elimination of the surfacer layer and application of the different layers in a wet-on-wet process are two typical approaches. These changes sometimes have implications for the properties that the remaining layers need to provide, and that is where we get involved.

The industry is constantly seeking coatings with reduced VOC emission levels. Coatings based on high-solids systems are particularly of interest since they can combine lower emissions with a faster drying step, and are typically applicable within the existing infrastructure. There is also a market for

coatings with higher scratch resistance, an area where silane monomers are proving especially effective.

## ► Where have you seen growth?

**Defoor:** The refinish clear coat market is important for the “Cardura” glycidyl ester monomers business. Traditionally these products were incorporated in the polymer backbone to improve the durability and appearance of the coating. Over the last few years there has been significant growth of high-solids and waterborne clear coats. One of the most effective ways to reduce VOC emissions whilst improving flow and appearance is the incorporation of glycidyl ester monomers in polyols. The low amounts of solvent in high-solids polyols and coatings allow faster drying and in certain cases sufficient coverage can be achieved with fewer coating layers. The growth of these systems, which began in Europe, has now spread to other markets, for example in Asia, demonstrating that the quality standards for clear coats have risen globally.

## ► What new developments are in the pipeline?

**Defoor:** A new, more compact and harder glycidyl ester monomer significantly reduces drying time under ambient cure conditions. This can help to increase productivity for the vehicle body shops, thereby addressing one of the strongest market needs for clear coats.

In the transportation market there is growing demand for waterborne epoxy systems for low-emission primer/surfacer coatings. These

provide the high standard of corrosion protection typically obtained with solventborne epoxy systems. Distinguished by a visible end of pot life and the fact that there is no induction period during application, they allow easy and robust spray application. Rapid drying and superior hardness development can lead to a productivity increase of up to 30 %.



Source: Igor Tasarov/Fotolia

High performance combined with cost efficiency and the need for emission management are key drivers of automotive coating developments

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## AUTOMOTIVE COATINGS

Visit session 1 of the congress  
on Monday morning, 18 March 2013

with the presentation by Dr Matthias Wanner,  
Fraunhofer Institute for Manufacturing Engineering  
and Automation, DE

**10.30 - 11.00 h**

“Generation of self-cleaning effects by UV/IR  
reflecting additives in automotive clearcoats”



# “Consider what we can learn from history of TBT usage”

A future without tributyltin means learning from the past



Lars Nordstierna,  
Chalmers University of Technology

Biocides are still a major issue in marine coatings. **Lars Nordstierna**, Chalmers University, Norway, believes that looking at other projects can offer vast learning potential. Apart from the possibility of packaging biocides in microcapsules and thus drastically reducing output, his eye is on industrial projects that examine the influence of surface roughness on antifouling paints.

► **What do you consider the best development for marine coatings in the past?**

**Lars Nordstierna:** Considering the progress made in

marine coatings in modern history, I welcome the focus on the environment. I believe that a long-term perspective that takes account of the

environment is significantly more important than short-term solutions where material efficiency is the primary concern. The ban on TBT was definitely a milestone and has directed research and development towards environmentally acceptable alternatives. At this point, I think it is crucial to consider what we can learn from the history of TBT usage. Other



Avoiding biocides, but keeping the antifouling on ship hulls is among the recent targets for the marine coatings industry

substances or a combination of substances is definitely an alternative but we must be very cautious when it comes to the environmental fate of any new substance.

► **Several projects for marine coatings are ongoing in the EU. Which ones are the most interesting in your opinion?**

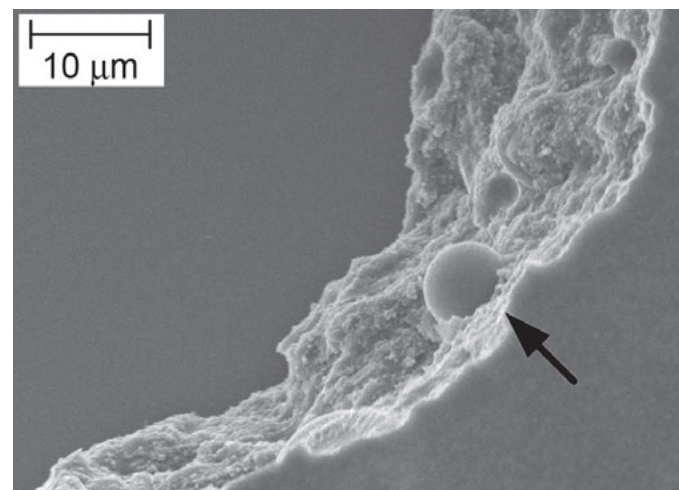
**Nordstierna:** From a technical point of view I am fascinated by the work of Jotun and others on methods that can be used to analyse the hull performance of real vessels. These methods take several aspects into consideration: the impact of fouling on the drag resistance of a vessel, the impact of surface roughness, and also practical implementation. Hull performance and, indirectly, the choice of antifouling paint can be monitored in real time.

► **The issue of biocides has still not been settled. Are you aware of developments that could bring about a solution?**

**Nordstierna:** I hope that some future innovation can draw inspiration from the

results yielded by the Marine Paint Programme, which ran from 2003 to 2011. The objective of that research was to deliver a concept for commercially and environmentally optimised marine antifouling paint using a formulation of efficacious biocide mixture and micro-particles that efficiently releases the biocides. The idea of optimised mixtures is based on using several different biocides with a view to making it possible to formulate marine paints that offer full fouling protection while at the same time treating the environment in a careful way.

The Marine Paint Programme approached the problem of tuning the biocide release rate by embedding each biocide separately in micro-particles. These are microscopic polymeric reservoirs measuring a couple of micrometers in diameter. The use of microcapsules not only dampens the initial release burst drastically, it also helps avoid chemical interactions between the different biocides, and so greatly facilitates paint formulation. ■



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Numerous attendees will once again take the opportunity to glimpse the latest coatings products up close. Developmental, technical and performance details relating to latest innovations will be introduced at the dedicated product presentation stands. Each speaker will have 15 minutes to expound on the properties of a particular product, including market trends in that field. Each presentation will then be

followed by brief discussions among attendees and speakers. For greater convenience, the presentations will be grouped by topic. Admission is free and no registration is required for the highly informative presentations. An overview of product presentations will be posted soon on the European Coatings Show website. After the ECS, all the presentations will be made available online to exhibition visitors.



All you need to know in 15 minutes – short presentations by exhibitors will give show visitors detailed information on novel products



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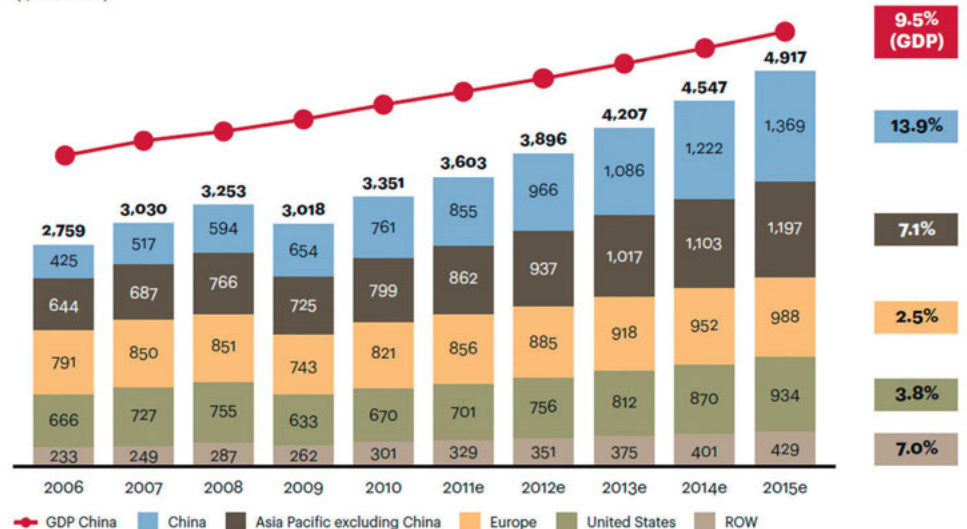
# New study: China's chemical industry – flying blind?

Competition will continue to intensify

China is one of the largest and most dynamic chemical markets in the world. By 2014, its share of the global chemicals market is projected to rise to 29 %. This development is being driven largely by strong growth in its customer industries. All major customers of chemical products – such as the construction, automotive, electronics and textile industries – have production operations in China, aimed at both the domestic and the export markets. A strong presence in China is therefore essential for lasting success.

A survey of executives from multinational corporations in the process and chemical industries, conducted by A.T. Kearney as part of its latest China study, shows that western companies continue to invest in China and are pursuing ambitious growth targets.

China's chemical market value by region and GDP (\$ billion)



China's chemical market will soon represent one-third of global demand

Source: Datamonitor; A.T. Kearney analysis



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Source: moonrun/Fotolia

The Chinese government has long recognized how attractive these industries are – and is increasingly putting its stamp on the game rules for the market. It is currently enacting the twelfth five-year plan. This sets out important industry guidelines and seeks among other things to promote China's transition to higher-quality, value-added and more sustainable production. Therefore, many observers regard it as offering an advantage to western manufacturers of specialty chemicals, fine chemicals, and agrochemicals. These are likely to find it easier to invest in new production plants. However, the plan also harbours risks for these suppliers. For example, there will be growing pressure to transfer know-how. At the same time, it should be noted that the Chinese government is pursuing the goal of making key areas of value-added chemicals less dependent on imports. An active industrial policy is being adopted to strengthen Chinese competitors. For all suppliers, this means that the new world being fashioned in China is influ-

enced by trends for which many western chemical companies are ill prepared. These include:

- Competition dynamics: Chinese companies have improved and are operating more professionally. At the same time, all reputable western competitors are already on location there. This means: competition will continue to intensify.
- Complexity: China is a very difficult market. Not only in terms of correctly assessing the goals and the specific influence exerted by public authorities, but also of the lack of qualified, affordable workers.
- Macroeconomic dynamics: economic slowdown, inflation and currency appreciation are just some of the risks that must be borne in mind. For western companies in China, this means that it is becoming much more difficult to be successful in this market. Success will come especially to those companies which align their strategic and operational processes systematically with their specific Chinese challenges and make smart adjustments.



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8.30 to 18.00 h

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9.00 to 17.00 h

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Companies which are exhibitors at the European Coatings SHOW 2013 or members of EuPIA or PRA will be given a 10 % discount of the standard fee.

## \*\* Pre-congress tutorials:

Each tutorial is limited to 25 attendees. Therefore, pre-registration for these tutorials is highly recommended, as registrations will be handled on a first come, first served basis.

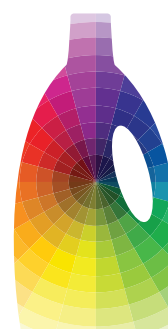
## Fees include:

- \* Admittance to the congress day booked
- \* Congress proceedings as CD-Rom
- \* List of congress attendees
- \* Luncheons & coffee breaks
- \* Permanent exhibition ticket
- \* Exhibition directory
- \* After work reception
- \* Welcome get-together

44 2012

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# “Colour management helps build brand identity”

Trends in colour measurement and testing



Richard Knapp,  
X-Rite

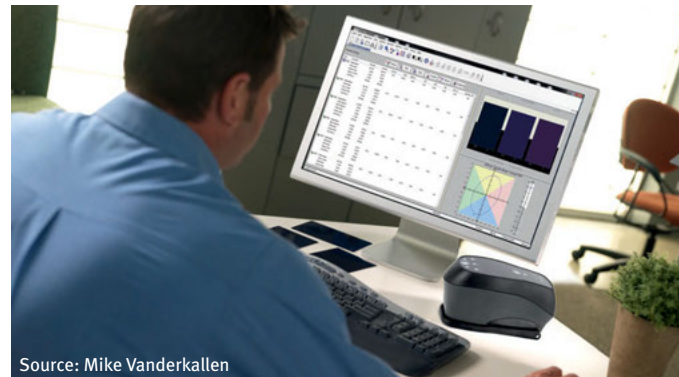


Matthew Adby,  
X-Rite

In today's competitive world paint manufacturers need to be able to differentiate themselves and offer services to their customers. X-Rite experts **Richard Knapp**, Product Manager – Software, Industrial Color and Appearance, **Matthew Adby**, Market Manager Industrial and Retail Business Units, and **Chris Wallace**, Global Account Executive Pantone Digital Business Unit, describe some of the latest developments in colour management.

► **How can new developments speed up colour matching and save costs?**  
**Richard Knapp:** Enhanced multi-flux matching systems enable the same database to

be used for matching opaque, transparent, or translucent samples, in both reflectance and transmittance modes. This means that a single formulation program is suitable for



Source: Mike Vanderkallen

Colour measurement and colour matching solutions: portable spectrophotometer and colour formulation software

a wide variety of applications, including printing inks (offset, screen, gravure, and flexographic), coatings, and plastics. Further advances will enable extensions for matching effect and appearance attributes. Multi-flux-based matching systems yield one-hit matches nearly every time at all levels of opacity. These systems automatically determine the best formula for an application based on the parameters selected, such as colour difference, metamerism, cost, or number of colorants. They also calculate the appropriate scattering and absorption characteristics so that the most cost-effective amount of pigment is added to achieve accurate colour. In addition, they reduce set-up time since they typically require only one database sample set to manage both colour and opacity.

► **How can systems help paint manufacturers and retailers build brand identity and customer loyalty?**

**Matthew Adby:** Colour is at the centre of a consumer's decision to purchase. From the design phase through to end-consumer selection, colour management helps retailers build brand identity and customer loyalty. This starts with the creation of their colour palette and the use of tools to measure, harmonise and visualise the new palette. Once the colour selection is established, it is essential that customers obtain a consistent colour and a match between printed merchandise and product in store. Special software for laboratory spectrophotometers provides both this vital assessment of quality and the link between the stages of design and manufacture.

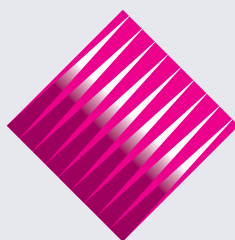
Tools for the consumer or paint professionals – either in store or at the client's

site – reinforce brand loyalty if they are linked to the specific colour ranges of a paint brand, if they enable a colour to be identified or matched, and if they help the user to make a colour decision through trend palettes, harmony recommendation or visualisation. Once a colour decision is made either for in-home use or a professional environment, this establishes a reference point for future purchases. Systems that support choice within the brand's colour eco system build loyalty and brand identity.

► **How can technology support the maintenance and management of colour and brand identity?**

**Chris Wallace:** Colour consistency is crucial to the consumer's perception of a brand owner and to buying behaviour. We work collaboratively with brand owners to audit and harmonise their critical colour palettes and allow them to be communicated throughout the supply chain using “Pantone Live”. Thanks to this cloud-based system, colour design can be in London, pre-press in Cincinnati and the converter in China, because everyone in the supply chain has access to the same data at the click of a mouse. This results in a precise procedure, with less waste, fewer mistakes and reworks, faster speed to market and the ultimate achievement of seeing consistent brand identity on the store shelf. Additional technology such as a spectrophotometer, statistical process control and verification software strengthen the process specification and allow evaluation of this colour data by the converter, giving measurable results across multiple print surfaces, production processes, technologies, skill sets, people and geographies.

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# Welcome to Nuremberg

The Franconian metropolis has a lot to offer visitors



Source: Uli Kowatsch/CTZ Nuernberg

**Frequent visitors to the European Coatings SHOW know that Nuremberg is a lively city of about half a million inhabitants, with a visible history stretching back almost one thousand years. The impressive Old Town is dominated by historic buildings. Discover this part of the Franconian metropolis on foot and enjoy the medieval atmosphere.**

No matter if you are a frequent visitor to Nuremberg or are coming here for the first time, a stroll around this Franconian metropolis is a must.

## Combining yesterday and today

The narrow alleyways with their teetering half-timbered houses, colourful facades and quaint shops will transport you back in time to the city's historic roots. Numerous museums, churches, fountains and towers line the streets of the Old Town, which is surrounded by a 5-km-long wall. The sights include the medieval Kaiserburg (Imperial Palace), the city's landmark, the Gothic religious buildings, such as the St. Lorenz und Sebald churches, the schöner Brunnen (beautiful fountain) in the Hauptmarkt (main market) and the Handwerkerhof (craftsmen's courtyard) directly opposite the main railway station. Also highly recommended is a visit to Albrecht Dürer's house, where the famous German painter lived and worked. In the modern era, the city is benefiting from its central location in the European Economic Area, especially as the EU expands eastwards. Nuremberg is one of the fastest-growing trade fair venues in Europe. Every year, more than 1.2 million people attend some 100 events and about 50 trade fairs and congresses. So, it is not surprising that Bavaria's second-largest city is well set up to cater to throngs of visitors.

Nuremberg has an awful lot to offer – and everything is within easy reach. The best way to explore it is on foot. There are numerous sights, museums and excursions to the countryside to keep visitors entertained.

## An extensive museum landscape

The most famous museum in Nuremberg is the Germanic National Museum. It is at once the largest cultural history museum in Germany and the National Museum of the Federal Republic. Museums, in fact, abound in Nuremberg. From the New Museum for Art and Design to the Documentation Centre of the "Reichsparteitagsgelände" – there are over 30 museums holding exhibitions on various topics. Nuremberg's life is colourful all year round. It is mainly green in the places where Nuremberg citizens like to spend time in the summer – in the parks. Some 417 hectares of the city are given over to public parks and green spaces. For joggers and nature lovers, the Marienberg park, the Wöhrder meadow and the areas around the zoo and the Dutzendteich are particularly suitable. Nuremberg Zoo houses over 2,000 animals and 300 species in a natural-looking habitat for animal lovers to observe and marvel at.

## Culinary delights

Visiting trade shows and strolling about town can make you work up a hunger, and you'll find that Nuremberg has a lot to offer in the way of culinary delights. The best way to revive your drooping spirits is to stop off in a sidewalk cafe or coffee bar, or to sample traditional Franconian food in one of the many restaurants. For a small snack between meals, you won't go far wrong with Nürnberger Bratwurst (sausage) or the famous Brezn, a type of pretzel. The sausages are a



Source: Herbert Liedel/CTZ Nuernberg

popular "fast food" for locals and tourists alike, offering unbeatable style and quality and are a must on any city walk, especially when washed down with a good local beer. Speaking of which, you mustn't miss

a trip to the beer garden when the sun shines.

Apart from Franconian fare, Nuremberg has plenty of international delicacies to sample. Enough, in fact, for you to "eat" your way around the world. Its

international restaurants offer an irresistible ambience and menus that will entice you to indulge in specialties from all over the globe.



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# Coming to town

A short guide on how to get to Nuremberg and where to stay

Whether you're coming by plane, train or automobile, there are all sorts of ways to get to this Bavarian metropolis. Nuremberg is one of Germany's more accessible cities. The Exhibition Centre also has good traffic connections. If you're intending to spend several days at the European Coatings SHOW and you still haven't arranged any accommodation, you'd better move fast! The following tips on how to get there, accommodation, etc should prove useful to more than just the first-time visitor.

Despite having 500,000 inhabitants, Nuremberg is a compact city and the approach routes are good. Nuremberg

extends some 14 km from east to west, with the Exhibition Centre in the south, about 7 km from the city centre and 5 km

from the airport. The city has numerous hotels and hostels, B&Bs and private rooms to suit every price category; most are close to the centre.

## Flying there

Flying to Nuremberg from within Europe is straightforward, as the city's airport can be reached direct from many European cities. A nonstop flight from Paris to Nuremberg, for example,

takes one hour and twenty minutes, while Vienna is between 50 minutes and one hour away, with Hamburg pretty much one hour distant. Intercontinental travellers can take connecting flights from neighbouring international airports, such as Frankfurt, Munich, Zurich, Amsterdam and Paris. The U2 underground line connects the airport to the main station and the journey takes 12 minutes. The journey from the airport



Source: 2008 Flughafen Nuernberg

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to the Exhibition Centre takes 25 minutes and you have to change at the main station. A taxi from the city centre to the ECS will take 15 to 20 minutes in normal traffic whereas the trip from the airport to the Exhibition and Congress Centre takes about 20 minutes.

## Arriving by train

The main station is on the national and international EC, IC and ICE rail network; most of these lines serve Nuremberg every hour. Travellers arriving

at the main station can get to the Exhibition Centre by taking the U11 underground train in the direction of "Messe" (Exhibition) or U1 in the direction of "Langwasser." At peak periods, the underground trains travel every 6 to 7 minutes and the journey lasts 8 minutes.

## On wheels

For those of you who enjoy the thrill of no speed limits on German autobahns, you are welcome to come by car! If you are driving to Nuremberg by



# Event ticket

Travelling comfortably to Nuremberg

ECS visitors can comfortably travel by train to Nuremberg from departure points throughout Germany. The special offer from Nürnberg-Messe GmbH and Deutsche Bahn includes a standard return ticket to Nuremberg for 99 Euros (second class) or 159 Euros (first class). The ticket is valid from 17 to 23 March, 2013. It can be booked by telephone (+49 1805 31 11 53, key word: ECS) or online at:

[www.european-coatings-show.com/de/besucherservice/reiseangebote/](http://www.european-coatings-show.com/de/besucherservice/reiseangebote/)







car, autobahns A3, A6, A9 and A73 will get you there. Those of you coming from Berlin, Leipzig or Dresden (A9) should take the “Fischbach” exit (Exit 52) and follow the signs for “Messe”. If you are coming from the East or South West on the A6, take the “Langwasser” exit (Exit 59). Visitors travelling on the A73 should take the “Zollhaus” exit (Exit 34).

Accommodation

“Business & Service”, the ECS service partner, offers attrac-

tive travel packages, such as rail-and-accommodation, and fly-and-rail combinations, for visitors to the exhibition and congress. It has also block-booked accommodation for anyone not requiring a package deal and who has his or her own transportation. If you intend to spend several days at the European Coatings SHOW, it is advisable to book accommodation early to ensure you get the best choice of the wide selection of inexpensive rooms on offer (see contact details in box). “Business & Service” will also provide assistance with last-minute bookings. ■



Source: Ralf Schedlbauer/Stadt Nuernberg



Source: Marco Schaack / Fotolia

USEFUL LINKS:

Online accommodation:  
[www.tourismus.nuernberg.de](http://www.tourismus.nuernberg.de)

Business & Service  
[www.business-und-service.de/en/kontakt/hotelreservierung](http://www.business-und-service.de/en/kontakt/hotelreservierung)

Nuremberg airport:  
[www.airport-nuernberg.de](http://www.airport-nuernberg.de)

Train tickets and pricing information:  
[www.bahn.de](http://www.bahn.de)

Timetable information for the greater Nuremberg area:  
[www.vgn.de](http://www.vgn.de)

Traffic updates on motorways around Nuremberg:  
[www.nuernbergverkehr.de](http://www.nuernbergverkehr.de)

Nuremberg taxi centre:  
[www.taxi-nuernberg.de](http://www.taxi-nuernberg.de)

NürnbergMesse:  
[www.nuernbergmesse.de](http://www.nuernbergmesse.de)

Hotel	Price Single Room	Price Double Room	Remarks	Distance to exhibition ground
Carlton Hotel *****	366,00 €	425,00 €	Minimum stay of 3 nights	6 km
Invite Hotel ehem. Senator ***	220,00 €	274,00 €	Minimum stay of 3 nights	7 km
Nestor ****	319,00 €	339,00 €	Minimum stay of 2 nights	8 km
Leonardo ***	285,00 €	306,00 €	Minimum stay of 3 nights	8 km
Holiday Inn Express, Schwabach ***	216,00 €	216,00 €		16 km
Holiday Inn ****	366,00 €	393,00 €	Minimum stay of 3 nights	7 km
Congress Hotel Mercure ****	382,00 €	401,00 €	Minimum stay of 3 nights	1 km
Best Western ****	215,00 €	247,00 €	Minimum stay of 3 nights	6 km
Azimut Hotel ****	227,00 €	280,00 €	Minimum stay of 3 nights	8,5 km

All prices are per room and night including breakfast, VAT and service

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# Expertise on the show floor

The latest EC Show’s exhibitor list

The world’s leading exhibition for coatings and its related industries, the European Coatings Show, will open its doors in Nuremberg, Germany, from 19-21 March 2013. As of 5 November 2012, 702 exhibitors from 39 countries have already registered to present their new and innovative products and services used to produce competitive high-quality coatings, paints, sealants, adhesives, printing inks and construction chemicals. View an updated list at: [www.european-coatings.com/Exhibitors\\_ECS2013.pdf](http://www.european-coatings.com/Exhibitors_ECS2013.pdf).

Instruments Co., Ltd., Guangzhou, CN BK Giulini GmbH, Ladenburg, DE Bluestar New Chemical Materials Co., LTD, Beijing, CN Bluestar Silicones France SAS, Lyon, FR Bodo Möller Chemie GmbH, Offenbach, DE Bohrmann GmbH, Hochheim, DE Bollig & Kemper GmbH & Co. KG, Köln, DE Borica CO., LTD., Taipei, CN Boud Minerals Limited, Lincolnshire, GB Brabender GmbH & Co. KG, Duisburg, DE Brabender Messtechnik GmbH & Co. KG, Duisburg, DE Brenntag Holding GmbH, Mülheim an der Ruhr, DE Brilliant Group, Inc., US Brookfield E.L.V. GmbH, Lorch, DE Bruchsaler Farbenfabrik GmbH & Co. KG, Bruchsal, DE Brüggemann Chemical L. Brüggemann KG, Heilbronn, DE Bühler AG Nanotechnology, Uzwil, CH Burgess Pigment Company, US Buss AG, Pratteln, CH BVBA Millennium Inorganic Chemicals, Willebroek, BE BYK-Chemie GmbH, Wesel, DE BYK-Gardner GmbH, Geretsried, DE C3 Prozess- u. Analysetechnik GmbH, Haar, DE C.C.R. SAS, Puteaux cedex, FR C.E.B. Impianti s.r.l., Barzano, IT C.H. Erbslöh GmbH & Co. KG, Krefeld, DE Cabo S.r.l., Paderno Dugnano, IT Cabot Performance Materials Belgium SPRL, Leuven, BE Calcit d.o.o, Stahovica, SI Caldif Deutschland Chemie B.V., Düsseldorf, DE Caltra Nederland BV, Mijdrecht, NL Cantarella & Molteni S.r.l., Cavenago di Brianza, IT Capelle pigments NV, Meneen, BE Cardolite Specialty Chemicals Europe NV, Gent, BE Carl Zeiss Microscopy GmbH, Optical Sensor Systems, Jena, DE Casone s.p.a., Noceto, IT Cathay Industries Europe n.v., Ninove, BE CCPIT Sub-Council of Chemical Industry, Hepingli, CN Ceac AG, Basel, CH Ceca S.A., La Garenne Colombes, FR Celanese Emulsions GmbH, Sulzbach, DE CFF GmbH & Co. KG, Gehren, DE Chameleon Colour Systems Limited Co., Galway, IE Chemguard, Inc, Mansfield, US Chemical Marketing Concepts Europe, Waalwijk, NL Chemieland International Co., Ltd, Qingdao, CN Chemipol S.A., Terrassa, ES Chem-speed Technologies AG, Augst, CH Chromaflo Technologies B.V. Maastricht, NL CHT R. Beitlich GmbH, Tübingen, DE Cia. 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KG, Nürnberg, DE CTP Chemicals and Technologies for Polymers GmbH, Rüsselsheim, DE CTP Egypt S.A.E. Chemicals & Technologies for Polymers, Giza, EG Cytec Surface Specialties SA/NV, Anderlecht, BE D.D. Chem SRL, Mazzantica di Oppeano, IT D+G GmbH, Strehla, DE D.W. Renzmann Apparatebau GmbH, Monzingen, DE Damolin Hamburg GmbH, Hamburg, DE Datacolor AG, Dietlikon, CH De Monchy International BV, Rotterdam-Hoogvliet, NL Defelsco Corporation, Ogdensburg, US Dennert Poraver GmbH, Schlüsselfeld, DE Deuteron GmbH, Achim, DE DFO e.V., Neuss, DE Diransa San Luis S.A., Buenos Aires, AR Disperlux GmbH, Berlin, DE DKSH GmbH, Hamburg, DE Dmitrievsky Chemical Plant, Moskau, RU Dog Deutsche Oelfabrik Ges. f. chem. Erz. mbH & Co. 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