

2022

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# TrueColours



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True Colours  
2021/2022

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Part of 

# Dear readers,



**W**ith this issue of TRUE COLOURS, we would like to look at all the business opportunities that are opening up through and after the worldwide COVID-19 pandemic, regardless of the suffering that has happened around the world. If you look back in history, there was always a sense of optimism after all the great recessions. But experts do not just expect an increase in consumer behaviour because change and transformation are taking place in many business and life areas right now. Trend developments have been accelerated and are opening up new opportunities to meet the economic future. These include innovations to protect people and the environment, an increased understanding of the interconnection between the environment, society and our business cycle as well as technological leaps that have made their way into our everyday working lives and are changing them sustainably. There is a new sense of “we”, even among market companions, which is leading to new partnerships. At KANSAI HELIOS, we have always been committed to sharing our know-know and exchanging ideas to create greater things for people and the environment. As a producer of coatings, paints, chemicals, resins and adhesives, we strive to provide high added value, such as modern painting processes and additional functionality. We aim to create product solutions that design sustainable value and thus, contribute to the future of our planet.

**Junichi Kajima**

President of the KANSAI HELIOS Management Board

*Junichi Kajima*

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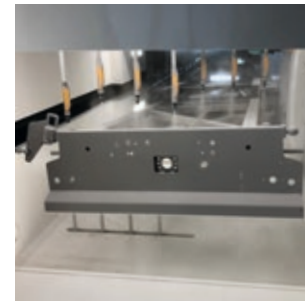
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# PROGRESS



“There are no constraints on the human mind, no walls around the human spirit, no barriers to our progress except those we ourselves erect.”

Ronald Reagan

Politician, 40th president of the United States



# Departure to economy after corona

Harry Gatterer,  
Trend Researcher and Futurologist, Managing Director Zukunftsinstitut GmbH

The economy needs a fresh start. At least that's what the World Economic Forum (WEF) postulates. But is this true? Does the consequence of the lockdown really force us into a new start? Or does corona merely provide a template for a narrative of new beginnings that would have been due long ago even without the COVID-19 pandemic?

**A**ccording to the WEF, a new beginning is necessary for a fairer, more sustainable and more resilient future. While in 2010 the risks were primarily economic (asset prices, China crash and fiscal risks), they are primarily environmental today (weather, climate catastrophes, biodiversity etc.). In addition, economic forecasts on the relevance of Western economies are looking bearish – regardless of corona: The old giants, the USA and Europe, are teetering. “New” players like India are coming to the fore. The economy of the last decades has ignored and

even sabotaged seeing the relation to the world for a long time. As long as plastic waste could be shipped to China, everything was fine. But now that the coronavirus has brought us to the brink of social and economic collapse, the signs are pointing to a global rethinking. The current task is to reconstruct the basis of the economy, in a reset. The world and how it functions can no longer simply be taken for granted – the awareness of the need to save not just the economy but also the world is growing in decision-makers' minds. Everything is pointing in the direction of a new start.

Photo: Wolf Steiner



“THE WORLD AND HOW IT  
FUNCTIONS CAN NO LONGER  
SIMPLY BE TAKEN FOR GRANTED.”



"WHAT IS MORE IMPORTANT IS THAT WE DECIDE "FOR" A FUTURE AND MANIFEST IT AS AN ATTITUDE IN EVERYDAY LIFE. WE ARE THE FUTURE. WE SHAPE SOCIETY AND CREATE SPACES OF OPPORTUNITY."

The German Zukunftsinstitut has a more differentiated view of the systemic relationships. The consequences of the lockdown are not forcing us to reset the economy. Rather, we are witnessing a breakthrough of a next generation of companies that have been in the starting blocks for a long time: the "Next Generation of Business".

#### Fork instead of restart

Corona is not triggering a new start, but a "change of the guard". Human dignity and social justice will increasingly move to the center of the social focus; jobs can increasingly enable meaningful action. The social divide finds evolutionary opportunities to be overcome in an emerging "we culture". A new mindset is taking hold in society, asking us to let go of previous successes and rethink the future. When we talk about the economy, it often sounds as if it were a uniform mass. But this is not the case. The economy is a mixture of very different players, and in the midst of this crowd, the pioneers of the future have been working on the concepts of tomorrow for a long time.

Therefore, the new start in the economy does not emerge in a vacuum – a lot of things have been there for a long time and are now coming to the fore. Corona is not the cause of this, but rather a driver, an accelerator of trends that already exist. This leap into the future imposes a new narrative on the economy – the departure, the reset. A fork in the road is forming at the center of the coronavirus crisis. One part of the economy wants

to quickly return to normality and business as usual. Another part cannot or will not go back and instead pushes forward – deciding to play a new game. This is the real momentum of the crisis: the choice of a path. The power of a "Next Generation of Business" lies in Europe's genetics: a unification of business and society, the bringing together of parts and fragments to form a larger idea of a world worth living in.

#### Decision for the future

The future is an imagination. It is created in our thinking and feeling and guides our decisions. Yet it also arises from decisions and brings out what has meaning to us. Therefore, in the end, it does not matter whether we assume a new start of the economy or come across a fork in the road. What is more important is that we decide "for" a future and manifest it as an attitude in everyday life. We are the future. We shape society and create spaces of opportunity. So, making your own company part of a "Next Generation of Business" is a choice – or not. The "pre-reboot" economy has reached a limit, made clearer than ever by corona. The reset called for by the WEF describes the momentum of our time. But neither the WEF nor the Zukunftsinstitut make the economy or the future – you make it, dear reader. To decide for the future requires the courage to grow beyond yourself, as a person, as an organization, as a society. And in all of this, we can only start with ourselves. Success is what comes afterwards! •

AN INTERVIEW WITH HARRY GATTERER, TREND RESEARCHER AND FUTUROLOGIST,  
MANAGING DIRECTOR ZUKUNFTSINSTITUT GMBH

# Welcome to the post-corona economy!

Cornelia Camondo

The COVID-19 pandemic has crippled the economy, threatened livelihoods and disrupted entire industries. But the crisis and its deep dislocations also open up new spaces of possibility. It is a time of great uncertainty, but also a time when what was previously unthinkable suddenly becomes possible. The course set in these months will have a lasting impact on the next few years and probably even decades – in society, the economy and above all in companies.

**M**r. Gatterer, you often hear people ask "When will everything finally be the same as before?". What do you answer to them?

Never. Those who hope for a return hope in vain. There can be no going back, and there should not be. A one-dimensional orientation towards the past does not help us in the current situation.

When looking at the post-corona economy, it is crucial to look forward – and above all to think in a systemic and sustainable way that understands the economy as a subsystem of society and also examines the interdependencies with other subsystems such as politics, science, law or religion. The coronavirus crisis has

not only massively affected the economy. Every subsystem is changing right now, some profoundly and others only at the surface, but every area of society is interactively connected to the others. A tunnel vision of the economy therefore creates dangerous blind spots more than ever before. The profound change that society is experiencing due to corona is also having a knock-on effect on the economy. And as values shift, so does value creation. The first weeks after the corona shock were dominated by prognostic attempts to make an end visible: "When" will there be an end to this nightmare? But in the meantime, entrepreneurs have realized what the real question is: "How" do we continue?



Photo: Wolf Steiner

## "COMPANIES WILL TIE THEIR STRATEGY MORE CLOSELY TO THEIR IDENTITY AND ALIGN THEIR PURPOSE MORE CLEARLY WITH THE GREATER GOOD."

### **So what advice do you have for companies to be well positioned for the future?**

The winners of this period will be the companies that use the time of crisis to reflect anew on their own economic actions and deal with the changes in society and the economy with foresight – and that remain active and develop new strategies for action. A new era of entrepreneurship is beginning in which entrepreneurial personalities are more in demand than ever. The post-corona economy requires contemporary business management which no longer primarily focuses on increasing performance and operational excellence but on creating the right conditions for adaptation. This also includes knowing the power of cooperation – because the crisis can be managed better together. It is all about smart partnerships, reliable colleagues and creating in a spirit of trust. Now is the time to set a course together. The post-corona economy is developing new networks at an unimagined speed and what hardly anyone thought possible before is suddenly becoming feasible. Companies need a complex self-awareness to act the right way now. The prevailing dynamics are demanding and require a very clear understanding of one's own strengths and potential. Companies will tie their strategy more closely to their identity and align their purpose more clearly with the greater good. Moreover, the people who work in and for a company

are central to its resilience. Finding (and keeping) the right employees requires a shift in thinking – away from human resources towards human relations. And the role of brands and marketing has also been changing – not only since corona: In the future, successful brands must focus less on individuals and more on values and collective identities. Sustainable brands see themselves as active drivers of change.

### **The coronavirus crisis is leading many companies to a point where they have to reinvent themselves. What is the importance of innovation in this process?**

The corona crisis creates new spaces of possibility – and the framework for development opportunities is being redefined. After corona, we will face the world with a greater awareness of global connections and interdependencies. Innovation is therefore no longer only about creating something new and overtaking competitors. A new understanding of innovation is emerging that embraces our relationship to the world and thinks of society, people and nature as a whole. It is about rediscovering our relationship to the world – and about rediscovering our culture of play. Those who wisely combine specific entrepreneurial challenges with a playful culture of trial-and-error pave the way for a new, sustainable quality of innovation. •



A CONVERSATION WITH CHRISTA ZENGERER OF THE ACSTYRIA  
MOBILITY CLUSTER

# Chances and challenges of the Austrian mobility industry

Katrin Willenshofer

Since 2017, Rembrandtin has been a partner of ACstyria, an Austrian mobility cluster representing a network of about 300 companies in the automotive, aerospace and rail systems sector. What are the future challenges in these segments? What can we expect in the e-mobility development? And what is expected from supplying companies for these industries – especially regarding further CO<sub>2</sub> regulations? We asked Managing Director Christa Zengerer for an interview.





**INNOVATION SHOULD BE IN THE FOCUS IN ALL INDUSTRIES IN ORDER TO REMAIN COMPETITIVE IN THE LONG TERM.**

**M**rs. Zengerer, ACstyria has a huge network of industrial companies. In your opinion, what are the biggest challenges in order to remain attractive as an industrial location in the future? How competitive is Austria as a location in the automotive sector?

From a strategic point of view, I see the main focus on innovation topics – in order to remain competitive in the long term. There are five key cornerstones we have just anchored in our new strategy that serve to support our partners: autonomous systems, digitalization, mobility services, innovative vehicle and drive concepts as well as the issue of sustainability throughout a vehicle’s life cycle, including its production.

If we succeed in being at the forefront here, we will also be among the showcase regions in the upcoming years. Incidentally, innovation is written into the DNA of the automotive industry and the mobility industry: If you consider that it was only a little more than 100 years ago that the passenger car replaced the horse-drawn carriage, you can see the enormous pace of innovation that has prevailed here from the very beginning. For me, the most important message is that the automotive

industry is capable of change and that Austria as a location can do high tech. The combination of well-equipped research institutions, universities, international companies and niche players is an internationally unique ecosystem. We are, of course, a high-wage country – but that is also our advantage.

**How did you experience the coronavirus crisis in the Austrian mobility sector?**

Maintaining and quickly restoring supply chains was a palpable concern in some areas. Here, the business community proved to be very resilient. We also asked our partner companies to assess the situation in two surveys – shortly after the crisis began and subsequently at the end of April 2020. In the second survey, we were already able to detect an initial confidence compared with the survey in mid-March. There is no question that the coronavirus has hit us, but what is essential is our orientation in the future.

**Where do you see the biggest challenges in the near future?**

Currently, we are feeling a great upswing again but are struggling with a shortage of raw materials on the international market.

**Which business models do you find to be promising for supplier companies in the future? Which competence profiles, vehicle systems and technologies will determine the industry in the years to come?**

From our point of view, the five key areas I mentioned earlier are particularly relevant for the future. They also include, which I would like to emphasize at this point, the large area of materials, the topic of lightweight construction and – let us not forget this – our enormous expertise in combustion engines! Another exciting topic is hydrogen, where we expect a lot to happen. And, of course, there is boundless potential in the advancing digitalization.

**E-mobility is becoming more and more popular. Where do you still see the biggest hurdles here?**

We think the expansion of e-mobility is very important – naturally, we are still in the early stages here. But we will surely tackle it. However, I would

like to emphasize that it is strategically essential not to back just one horse. For the future, we expect a mix of different drive technologies, all of which can play to their strengths depending on the scenario. These different drive and vehicle concepts also offer our companies many prospects that need to be identified at an early stage in order to successfully shape the so-called digital transformation.

**Which impact will the new CO2 regulations have on Austrian automotive suppliers?**

What we expect for Austrian automotive suppliers is a rebalancing of value creation in the direction of digitization. For the transportation of tomorrow, we need software, sensors, chips and other digital technologies. This is much more at the center of current developments than the frequently discussed question of tomorrow’s drive technology, and it is immensely important that we do even more here to expand our position. •



ACSTYRIA

# ACstyria INFOBOX

The mobility cluster ACstyria represents a network of more than **300** companies in the automotive, aerospace and rail systems sectors – with over **70,000** employees and total sales of more than **17** billion Euro. The core service of the cluster, which was founded in **1995**, is the networking and supporting of companies in Styria (Austria) along the entire value chain. It sees itself as a link between business, the industry, research and public institutions.

More information: [www.acstyria.com](http://www.acstyria.com)



**Automotive**

With more than **180** partner companies, the automotive competence field has been the driving economic and innovation engine of Styria for many years. The know-how in this area ranges from the production and processing of raw materials and components to research and development as well as the manufacturing of complete vehicles.



**Rail systems**

With major system suppliers, highly qualified niche specialists and leading global research institutes, the rail competence field is the one sector that has been growing dynamically for years. ACstyria networks partner companies in the key areas of rolling stock, track and signaling technology.



**Aerospace**

More than **80** Styrian companies generate sales of over **650** million Euro per year in the aerospace sector and employ around **3,000** people. The main focus is on cabin interiors, structural components, powertrains, materials and lightweight construction.

# Next steps in the digitalization of resins production

Dušan Odar, Radmila Wollrab

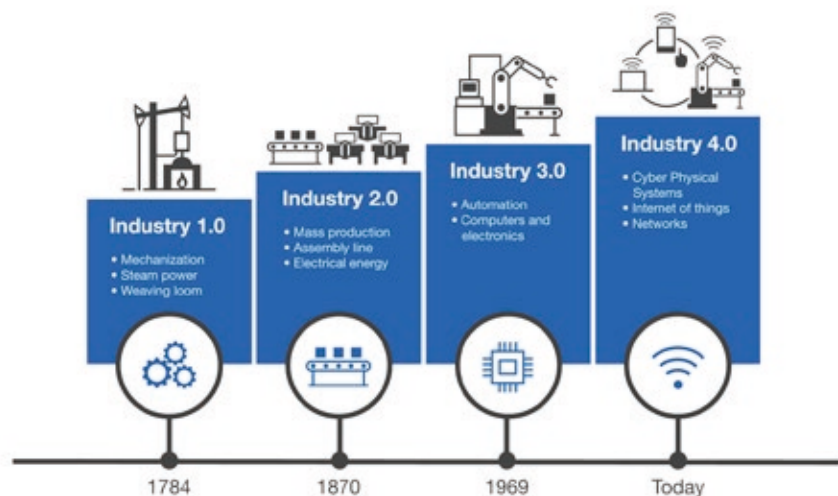
We are no longer simply talking about Industry 2.0. We have already reached the 4th stage of development, where artificial intelligence is opening up new opportunities – especially with regard to a greener and more digital economy.

The acceleration and transition to a green, climate-neutral and digital Europe is one of the biggest goals of the European Union in order to make the European industry more resilient and competitive.

A greener and digital economy is closely related to Industry 4.0. The Internet of things (IoT), Industry 4.0, advanced analytics, digital technologies and big data have great potential to transform all aspects of business. Given that the chemical industry is lagging behind other industries in the digital transformation<sup>1</sup>, an organization that undertakes such modernization efforts can experience great benefits. In fact, according to research by McKinsey, the implementation of E2E (end-to-end) digital technologies across the value chains in the chemical industry can lead to an 8 to 16 percentage point improvement in EBIDTA<sup>2</sup> with the biggest gain coming from production as well as marketing and sales.

The areas of applying artificial intelligence in manufacturing are diverse and promising. Among the many benefits, Industry 4.0 can lead to profitable business models, greater efficiency, a higher quality

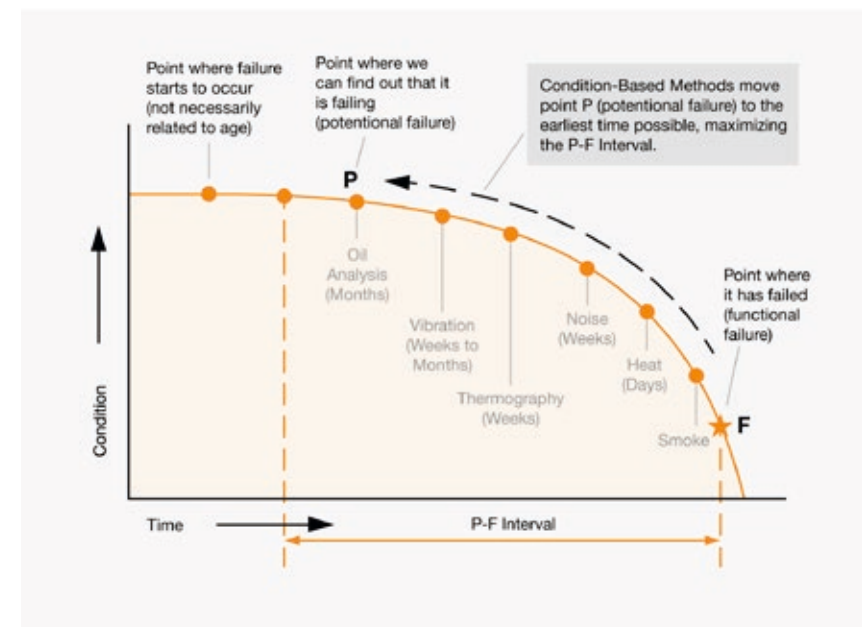
and improved workplace conditions. By incorporating sustainability into production, technology can, among other things, offer effective solutions in saving energy and controlling emissions.



<sup>1</sup> Digitalization of the European Chemical Industry, Cefic.

<sup>2</sup> End-to-end digital transformations for chemical companies | McKinsey.

THE EFFECT OF CONDITION-BASED MAINTENANCE AS ILLUSTRATED IN A P-F CURVE



Helios Resins sees four main areas where investment in digitalization can make a big difference:

- 1) Product development and process optimization,
- 2) predictive maintenance with artificial intelligence,
- 3) quality management based on artificial intelligence.
- 4) Logistics and planning

To optimize the process, we firstly needed to update the automation system our synthetic resins plant in Količevo runs on. In 2020, we started the upgrade of the Honeywell TCD 3000 legacy control system with the complete control replacement and migration to Experion PKS. The upgrade is taking place in three stages set to be completed by the end of 2022, while the old hardware and process equipment is slated for removal in 2023. The value of the upgrade is hundreds of thousands of

euros. The new system will enable an easier and faster access to data as well as a more efficient management and process control by the plant operators. The upgrade will allow us to use software solutions by different systems integrators, which opens the door to the improvements that will lead to achieving our digitalization objectives.

The next step is the implementation of the predictive or condition-based maintenance strategy at our plants. Predictive maintenance is a type of maintenance that involves the use of sensors (e.g. temperature sensors or vibration sensors) to measure the condition of process equipment over time. The collected data can be used to determine trends, predict failures and calculate the remaining life of equipment. In this way, maintenance is only performed if the data show that the capacity is declining or failure is likely (see Figure 2<sup>3</sup>). However, accurately predicting when something will fail is not always straightforward. There are no ready-

made solutions for the predictive maintenance of entire systems, so it is necessary to create custom solutions. Nonetheless, the investment is worthwhile, as it leads to cost savings due to an improved assets utilization and OEE, the avoidance of unscheduled downtime and the optimal planning of maintenance activities.

To summarize, organizations that are quick to adopt digital solutions for production optimization, remote monitoring, supply chain visibility, waste reduction and opening up to new opportunities will benefit in many business areas, while those that hesitate too long could fail. Helios Resins has been working intensively on defining and implementing strategies where digitalization plays a fundamental role not because Industry 4.0 is one of the buzzwords of our business generation, but because we firmly believe in the success digital transformation can create. •

<sup>3</sup> Maximizing the P-F Interval Through Condition-Based Maintenance«, D. R. Blann, 2013.

# HELIOS year of facades – cool and colourful protection

Cirila Colnar-Mikeln

Do you know the feeling when you are driving through a village or a certain part of a town and you see bright green gardens, shiny fences and colourful houses? Everything seems so clean and coherent and you think: “This is a nice place to live.” Actually, it is the whole villagescape that lets this thought arise in your head. And facades are one of the most important elements of this scape.

**D**ecorative, creative, protective, long-lasting: Facades have many important functions. As one of the most visible elements of exterior architecture, they give a building the finishing touch and play a significant role in shaping the overall impression of a town, village or region. Their appearance and protection is of utmost interest to architects, the industry, councils and, of course, also to private homeowners. In 2021, KANSAI HELIOS devoted special attention to these parts of houses and especially to their protection. In the **YEAR OF FACADES**, we launched a special product under the brand HELIOS for facades that meets today’s and future requirements for facade systems.

Naturally, 2021 is not the only year in which HELIOS dedicates itself to facades – decades of research and development have preceded the deep understanding of and know-how about facades and their special needs. These needs prove to be quite complex and diverse: Too much sun can be harmful, poor sunlight has negative impacts, a faulty construction can cause unwanted effects, surface heating should

be avoided and, last but not least, facades are exposed to weathering conditions during their whole lifespan. This span should clearly be as long as possible, which is where facade coatings come into play. But what is possible? What are the main problems when it comes to facade coating protection and how can they be solved? In the following, we have collected answers to these and other questions for you.

## Harmful influences on facades

Over time, a facade surface can be damaged by cracks, peeling, chalking, fading and other damages caused by atmospheric influences like UV light, humidity, wind or weathering. Especially in urban and industrial areas, air pollution caused by solid dirt particles, CO<sub>2</sub>, SO<sub>2</sub> and nitrogen oxides can have a negative effect on the surface protection. Additionally, protective coatings can be damaged through construction defects, improper installation, the choice of an unsuitable coating and/or UV unstable shades. Last but not least, mold and algae are common damages due to surfaces that are damp or not exposed to enough sunlight.

Apart from that, too much sunlight is also harmful, as UV radiation is the most crucial reason for chalking, cracking and the fading of shades. Practically every organic substance has a certain UV stability limit and its destruction depends on the intensity and duration of UV radiation exposure.



ALGAE, FUNGI, CHALKING, BLISTERING OR CRACKING ARE JUST A FEW EXAMPLES OF FACADE DESTRUCTION.



## Optimal protection – a question of the binder and the right choice of pigments

Usually, mineral or dispersion finishing plasters as well as thin-layer paints are the products of choice for facade protection. Standard facade paints and dispersion plasters contain a certain amount of an emulsion – a copolymer binder, which is in most cases a styrene acrylic or acrylic copolymer. The UV stability of the coating mainly depends on the quality and quantity of the binder. Our research shows that **pure acrylic binders lead to a better UV stability**. In addition, a higher binder content prolongs the lifespan of the coating, which can be explained with the film matrix composition. More binder means that the surface of the film also contains a higher amount of binder. As a

result, a longer protection against UV radiation and the other components of the film matrix can be achieved. Especially pigments and fillers benefit from a higher amount of binder, as they resist longer against fading due to UV radiation and leaching as a result of rain.

Facades clearly have a decorative purpose as well and therefore shine in various colours. To achieve this, facade coatings are usually tinted with pigment pastes or colourants, which can contain either organic or inorganic pigments. Both pigment types have their eligibility, but for the optimal finish and protection, inorganic pigments are clearly the best choice. Even if organic pigments provide more brilliant and pure colours, their particles are very fine and the

hiding power is usually poor because they are more transparent. Thus, they decompose very quickly when exposed to UV radiation. Due to the small particle size, they can quickly be leached out from the film matrix once they are not protected with binder anymore. In contrast, inorganic pigments have more natural colours. However, they convince with their chemical structure that guarantees a very good hiding power as well as UV and weather stability. Due to the bigger particle size, they are hardly leached out from the film matrix. Consequently, the combination of a high amount of acrylic binder and tinting with inorganic pigment pastes is the only right choice for an optimal protection of facade coatings.



**"IR REFLECTIVE PIGMENT-BASED SHADES ARE AVAILABLE FOR SPEKTRA TOP DRY, SPEKTRA ACRYLIC FACADE PAINT, SPEKTRA/FASADEx ACRYLIC PLASTER AND SPEKTRA/FASADEx SILICONE PLASTER."**



SPEKTRA Top Dry features a special hydrophilic component of the coating film, on which raindrops or moisture are dispersed into very small droplets. The drops are not absorbed by the surface but simply evaporate, and the facade surface dries extremely quickly.

facade paints, water is absorbed by the film, leaving dirt on the surface. Drying takes longer, which makes the growth of mold and algae more likely. Water absorption shortens the life of such coatings, as hairy cracks and a consequent peeling and/or visible mechanical damage occur earlier. The binder type and its content ensure the best possible UV stability of the paint film. •

SPEKTRA Top Dry offers excellent protection against rain, dew and fog. On coatings of standard

ALL SHADES' RECIPES OF HG MIX EXTERIOR COLOURS ARE DEVELOPED WITH INORGANIC PIGMENTS. THE CARD INCLUDES A SET OF 70 DARK SHADES THAT ALSO CONTAIN IR REFLECTIVE PIGMENTS.

**Keep cool and use white shades!**

In the last five to ten years, the architectural trend has shifted towards dark shades and combinations of different grey tones paired with colourful highlights, which is beautiful. But there is a big challenge hidden within this modern design. While white or very light surfaces do not absorb much IR radiation and their temperature increases up to 30 - 35 °C at 25 °C, black or dark surfaces absorb a lot of IR radiation and heat up to around 70 °C. This heating of the facade coatings has a negative influence on the heating of the entire building, as it leads to more energy consumption for cooling during hot seasons. And, what is even worse, this heating has a very destructive effect on the film quality: The coating film stretches in the heating and shrinks during the cooling process. As it is not overly elastic, it cracks after a certain number of stretching and shrinking cycles. The cracks are

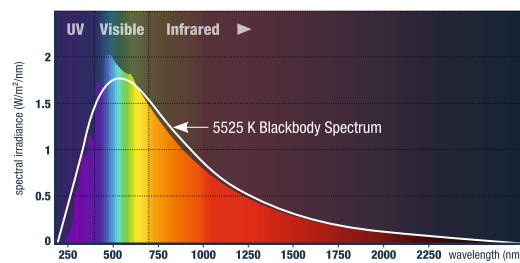
directly exposed to humidity, which has its own destructive effect. The coating starts to decompose. Our advice: Choose a high-quality facade coating tinted in a light shade based on inorganic colourants.

But what if we want to follow this trend towards dark facades or even use all colours we can imagine and still achieve a similar facade coating lifespan? The good news is: It is possible with special pigments in the paint. These pigments have the wonderful quality of also reflecting the IR part of the sunlight radiation.

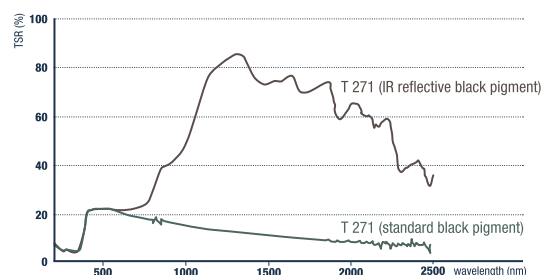
**Optimal protection in various colour shades**

In the "HELIOS YEAR OF FACADES", we invented a new product that was specially developed to enable the best protection of facades: **SPEKTRA Top Dry** is a new facade paint available in various colours according to the new colour card **Exterior Colour Collection**.

SUNLIGHT IS COMPOSED OF THREE MAIN RADIATION RANGES: VISIBLE, UV AND IR. IR RADIATION, WHICH IS RESPONSIBLE FOR THE HEATING OF AN EXPOSED SURFACE, REPRESENTS MORE THAN 50% OF THE ENTIRE SPECTRUM.



THERE IS A DIFFERENCE IN THE ABSORPTION OF IR RADIATION BETWEEN A STANDARD BLACK PIGMENT AND AN IR REFLECTIVE BLACK PIGMENT USED FOR TINTING. THE TOTAL SOLAR REFLECTANCE (TSR) WAS MEASURED FOR BOTH SHADES. IN THE CASE OF THE IR REFLECTIVE PIGMENT, THE HIGHEST VALUE OF TSR IS APPROX. 85% AND THE BIGGEST PART OF IT IS IN THE IR SPECTRUM RANGE – MOST OF IT WAS REFLECTED. THE TSR FOR THE SAME SHADE, PREPARED WITH A STANDARD, NON-IR REFLECTIVE BLACK PIGMENT, IS APPROX. 22% – MOST OF IR RADIATION WAS ABSORBED.



# Chromium-free coatings for grain-oriented electrical steel



Dr. Johann Schellenberg

The extensive ban on the use of Cr(VI) compounds in the European Union affects many industrial sectors. The production of grain-oriented electrical steel, where chromates are used in coating solutions, is one of them. However, technically equivalent and completely chromium-free insulation coatings are available today.

Four years have passed since the sunset date of 21 September 2017 for chromium trioxide and its derivatives in the EU. The authorization applications for the further use of Cr(VI) compounds were submitted before this date by some producers. The European Commission issued an authorization for 7 years as of the sunset date, i.e. until 21 September 2024. Subsequent applications shall be submitted at the latest 18 months before the end of the review period while the legislator requires that the review period is used to search for alternative options.

At the same time, an EU-wide harmonization of threshold limit values for occupational exposure to chromium trioxide was agreed. In the future, a threshold limit value of 5 µg/m<sup>3</sup> shall apply in addition to the authorization requirements; during a five-year transition period, the limit value shall be 10 µg/m<sup>3</sup>.

**“The switch to chromium-free solutions for GO electrical steel is just a question of time”**

Electrical steel is a 0,1 to 1,0 mm thick cold-rolled steel strip with high silicon content. Depending on the field of application and the production process, a distinction is made between non-grain-oriented (NGO) and grain-oriented (GO) electrical steel. The former is used for the manufacturing of iron cores for rotors and stators of electric motors and generators. GO electrical steel is mainly applied in the manufacturing of transformers.

**Cr(VI) in insulation coatings for electrical steel**

Cr(VI)-containing salt solutions and iron react to form chromite and therefore belong to the main ingredients of electrical steel coatings. In combination with other coating ingredients, Cr(VI) forms a smooth and abrasive-resistant insulation layer. In the curing process, Cr(VI) is reduced to Cr(III), making it much less concerning with regard to potential health hazards.

Due to high curing temperatures for GO electrical steel, a complete conversion can be assumed; in the case of non-grain-oriented steel, the conversion rate strongly depends on the curing temperature. Some studies show that the content of hexavalent chromium in cured insulation layers of commercially available NGO electrical steel often exceeds the limit of 0.1% by weight defined in Directive 2011/65/EU (RoHS). In some cases, the limit is exceeded many times over.

By now, all chromium trioxide derivatives are classified as CMR substances. Therefore, research has been focusing on replacing them with less toxic alternatives in electrical steel coatings for years. In Europe, chromium-free NGO steel coatings were established in the market about 15 years ago. In Asia, solutions containing Cr(VI) are still state-of-the-art because regulatory requirements are much less strict than in the EU. Today, chromium-free insulation coatings for NGO electrical steel are on a par with chromium-based coatings from a technical point of view.

Grain-oriented electrical steel is still coated with chromium-based solutions around the world. The search for chromium-free alternatives for GO electrical steel has been more difficult because, in contrast to NGO electrical steel, the coatings do not contain organic binders. This fact makes the development of a hydrolysis and corrosion-resistant insulation coating a great challenge.

**A chromium-free alternative by Rembrandtin**

Chromates are known for their excellent passivating effect on iron-based substrates, which also applies to electrical steel. The material must withstand long transportation under sometimes extreme weather conditions, which is why resistance to hydrolysis and corrosion belongs to the core requirements on the coating in addition to good electrical insulating properties.

In lab tests, coated steel panels are stored in a closed container in water at 90 °C for 24 hours as part of the sample

in the vapour phase. The coating shall not undergo changes in appearance. This represents a particular challenge for chromium-free systems with a film thickness of only 2 to 4 µm. Coatings producer Rembrandtin was able to overcome this challenge with the development of the Remisol EB 5320 coating solution. The hydrolysis and corrosion resistance is comparable to that of Cr(VI)-based coatings. This was also confirmed in many tests by coating users.

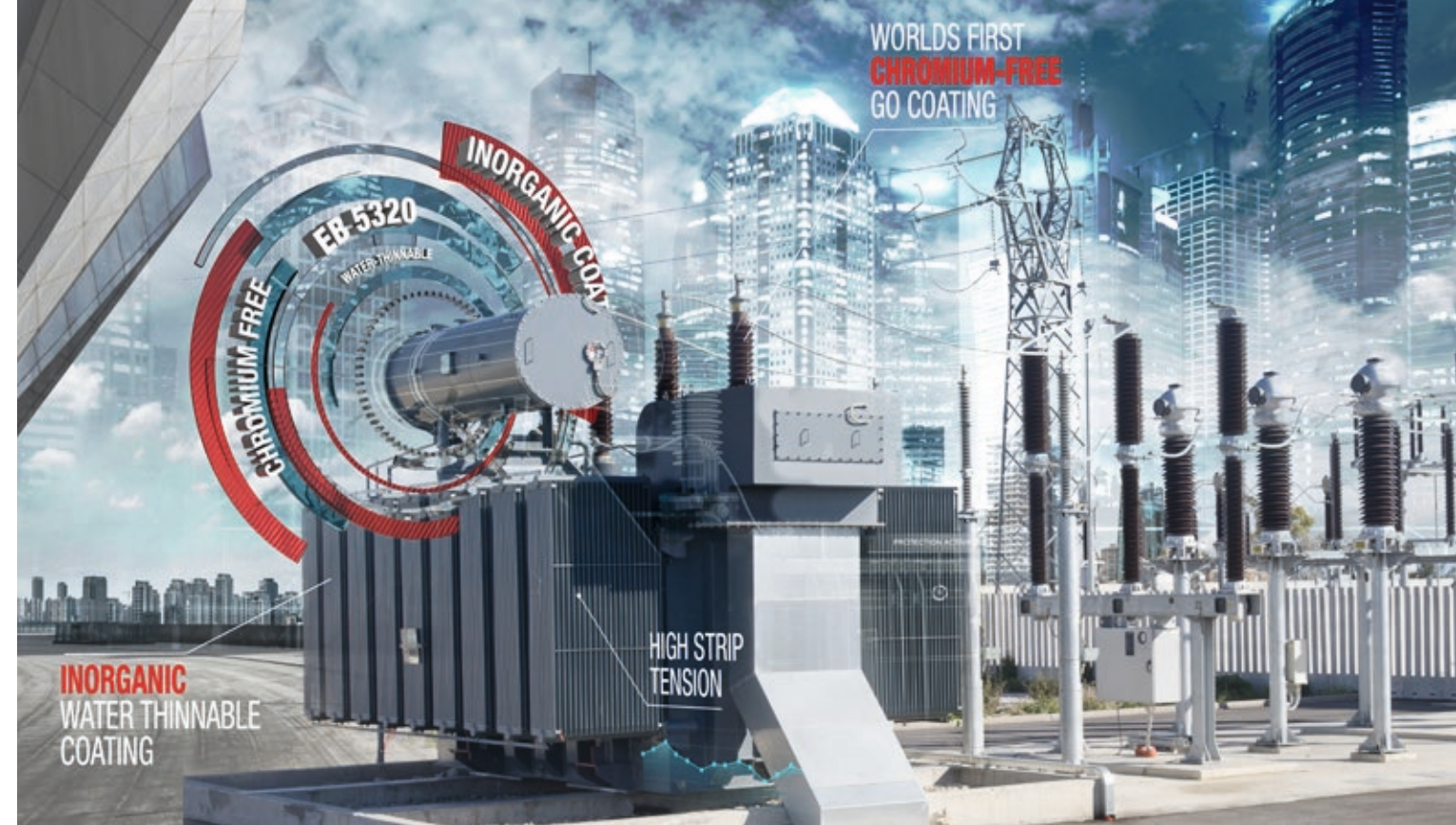
The generation of the so-called “tensile stress” exerted by the coating on the substrate is an important feature. It further enhances the magnetic properties of electrical steel. It could be shown that also this requirement can be met without the use of chromium.

The new chromium-free coatings are available in a “classic” clear version as well as in pigmented versions. Pigmentation produces a more homogeneous appearance of the substrate, which is desired by many steel producers.

**Remisol EB 5320 is a one-component system** and has a **shelf life of several months without quality loss**. This is an additional advantage compared to conventional chromium-based solutions which need to be mixed immediately before application.

As for every big technological change, the transition to chromium-free electrical steel coatings requires some adjustments on the application side. Thus, chromium-free coatings are best applied with smooth rollers, whereas many steel mills use grooved rollers for chromium-based solutions. In the case of pigmented systems, the rheological properties of the solution are so different that an adjustment of the application technology is unavoidable.

On the chemical side, there are many promising approaches for a solution. Therefore, a change to chromium-free coatings for grain-oriented electrical steel should be realistic and advisable in the upcoming years. •



DIGITAL PRINTING ON COIL

# A revolution in the coil coating process

Stefano Gazzola

Faster, higher quality, cheaper and more flexible: Single-pass digital printing in coil coating is an innovation that is revolutionizing the coil coating process. As an integral part of the coating process, this printing method enables photos, computer graphics and samples to be printed directly onto steel or aluminum sheet. Special environmentally friendly sol-gel printing inks are used for digital printing on coil.

**D**igital printing on coil is an innovative process which contains many advantages in terms of flexibility, cost savings and reliability. Although digital printing has not reached the speeds of conventional printing yet, the end productivity is still the same or higher because there is virtually no makeready time and changes also do not take very long. There are no print form cylinder costs and short runs can be printed at the same production costs, but without waste. The printers are designed for fully automated 24-hour operation and offer an optional layer thickness measurement to prevent a collision with the metal band and ensure the same print quality at all times.

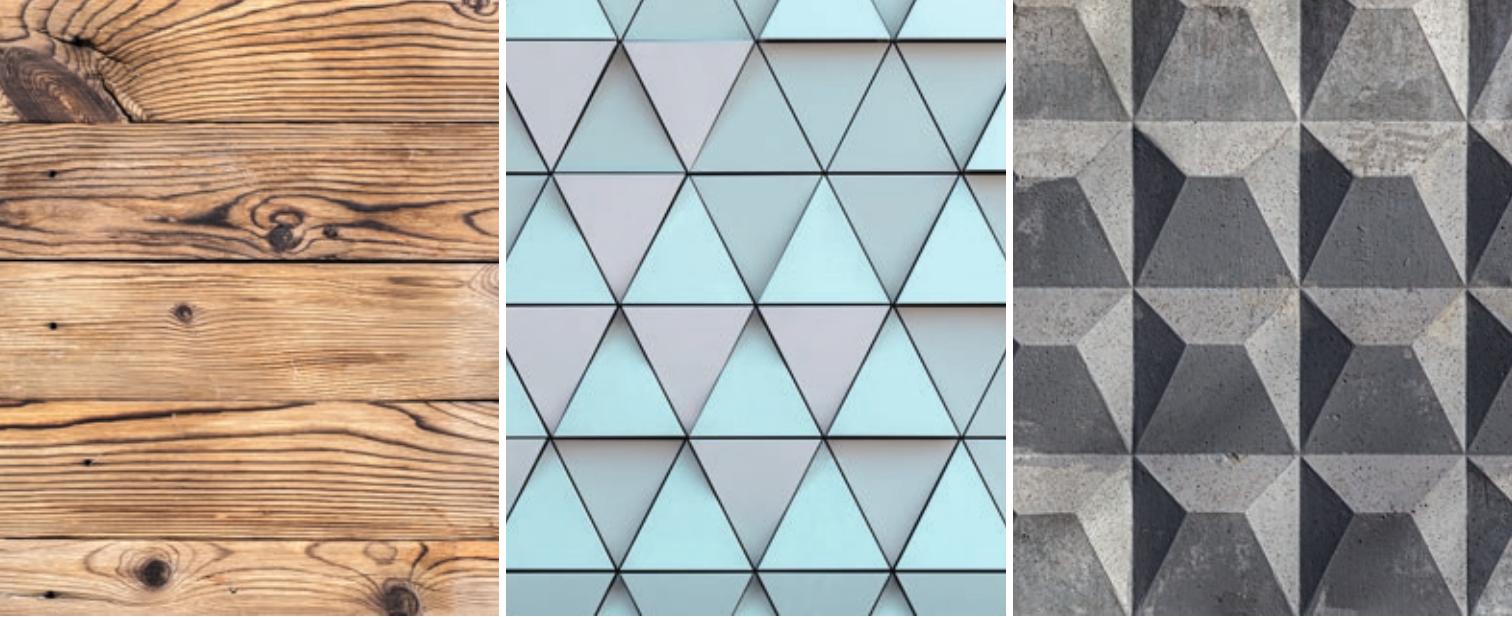
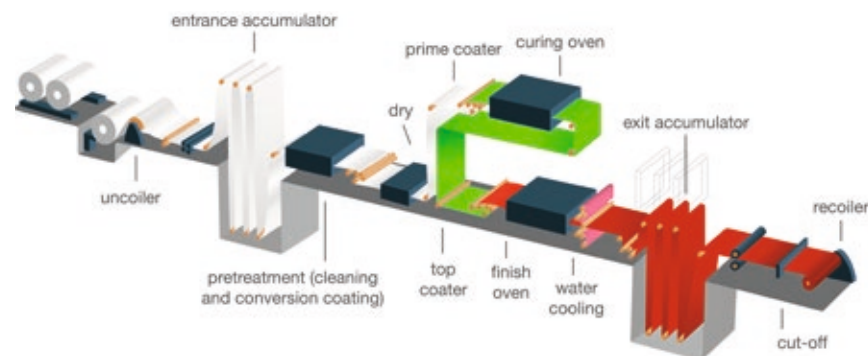
The future in this field is more than promising: 95% of the ceramic tile market is already fully digitalized. The manufacturers of digital printers are receiving inquiries from many other sectors and are already supplying them with printers. Even the paper and flexible packaging industry, which traditionally used flexography, is increasingly moving towards digital printing.

**180 meters per minute – coil coating is fast and efficient**

Coil coating is a continuous, automated process for coating metal before it is fabricated into end products. The steel or aluminum substrate is delivered in coil form from the rolling mills. The metal coil is positioned at the beginning of the coating line, and in one continuous process, the coil is unwound, cleaned, pretreated, primed and painted or printed before being recoiled on the other side of the line and then packaged for shipment. All of this happens at up to 180 meters per minute!

**Conventional printing processes and their disadvantages**

The printing technologies currently used to enhance pre-painted metal are mainly rotogravure printing, flexographic printing and hot lamination with printed plastic films. Flexographic or gravure printing uses flexible printing plates made of different materials or printing form cylinders. The plate or printing form cylinder rotates and is covered with a quick-drying printing ink. The substrate to be printed runs over the cylinder, which prints the ink onto the substrate. This is a high-speed process that



can be used to print different substrates. However, the process also has some disadvantages in terms of costs for the rolls and their maintenance as well as the costs of scarp.

**Digital printing is faster, more economical and more versatile**

Unlike flexographic printing, which requires printing plates, digital printers spray the ink directly onto the substrate. Using the print heads, the printer can adjust the size and quantity of the ink drops. Each parameter can be set with the printing software in the same way, so that only the exact amount of ink needed for printing is used. Due to its advantages, digital printing is already used in many industrial sectors, especially for printing flat objects (e.g. ceramic tiles, glass, wood, PVC).

Advantages of digital printing compared to other printing processes:

- **Fast turnaround**  
Digital printing does not require rolls to be created or images to be adjusted and the setup time for the machine is minimal. For these reasons, digital printers can turn around custom print jobs quickly and easily, with no significant labor demands.
- **Higher image quality**  
Because of the movement of the substrate during the flexographic printing process, it is nearly impossible to achieve a perfect alignment for every color plate, and bleeds and traps are added to accommodate for this. However, digital

images are printed in one image rather than using several different rolls. For this reason, there is never any registration or color overlap with digital printing.

- **Low cost for short run print jobs**  
Because there are no rolls to create images, the cost of digital printing can be much lower in comparison to flexographic printing, especially with small amounts of square meters where the higher cost per roll or per sheet is still offset by the significant savings from not having to purchase a roll.
- **Flexibility**  
Because digital printing largely only involves the digital image as opposed to costly rolls, the images can be easily changed or updated at no expense. You can also print multiple versions of the same image quickly and easily. Digital printing allows for flexibility with your print jobs that flexographic printing cannot offer without needing additional time and money.

**Endless patterns and manifold design possibilities**

Single-pass digital printing is an innovative method that can be integrated into the **coil coating process without interference**. This means that any digital image can be printed, whether a photo, a computer-generated pattern or a mixture of both. The image processing software is integrated into the printer and the printing is done on a continuously running, pre-painted strip.

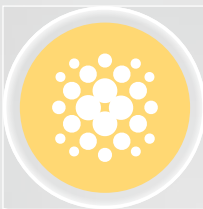
The printing can be programmed as required: Depending on the computer

performance, a single pattern can have a length of more than 10 meters and can be printed once or several times in any length. With an appropriate pattern design, an endless pattern can be generated. While one job is being printed, the next job or image can already be programmed so that the transition from one job to the next can be seamless. Digital printing creates vivid images and gives the impression of a real object.

**Sol-gel printing inks for digital printing in the coil coating process**

HELIOS develops and formulates sol-gel printing inks for coil coating design with digital printing. They are based on **environmentally friendly solvents** and exhibit **good outdoor durability and excellent mechanical properties**. Sol-gel printing inks are based on the same pigmentation as conventional coil coatings and therefore ensure good weather resistance. Sol-gel printing inks are already successfully used in various industries, including glass printing. Four-color CMYK color printing is fully adequate for the printing targets in the construction sector, although digital printers can be equipped with up to 8 to 12 different inks.

The specific “coil coating” printing system consists of a polyester primer (8 to 10 micron) + sol-gel ink (1 to 2 micron) + HD PE clear coat (15 micron). This fine-tuned system allows an easy passage through the printing machine for the highest level of productivity. Sol-gel inks dry within a few seconds and allow a wet-on-wet application of the clearcoat. •



POWDER COATINGS



LIQUID COATINGS



E-COAT



GEL-COATS



ADHESIVES



YOUR SYSTEM SUPPLIER FOR INDUSTRIAL COATINGS

# Conservation of natural water resources

Matej Virant and Ivan Grčar

Hydrogen peroxide is versatile. It occurs in nature and even in the human body, but in such small quantities that it is produced industrially to bleach textiles or paper or also to detoxify wastewater. Belox<sup>®</sup> products received an approved BPR (Biocidal Products Regulation) authorization to be used for the disinfection of drinking water, water for animals and water in reservoirs.

**H**<sub>2</sub>O – water is a source of life and crucial for the existence of the biodiversity on our planet. It plays one of the most important roles in the ecosystem balance and is involved in many natural processes and reactions that benefit all living things. Since water is not newly produced, only a limited amount of it is available. However, it will never run out because there is a constant circulation of water present on a global scale. This specific phenomenon is called the water cycle.

Water presence and usability is so widespread that practically all industries worldwide depend on it. The economy, technology, industry, agriculture and many other areas would simply stag-

nate without water, as they are first and foremost dependent on this source. One of the most important topics is water for consumption and the personal hygiene of humans and animals, which allows us to survive. Therefore, our awareness of the importance of ecological and ethically conscious water consumption is essential.

There is an unlimited number of potential water pollutants. Water comes into contact with them either through natural processes in the environment, during use or in a process at a later point. The treatment of such waters in order to improve the quality before they are discharged back into the natural environment involves a variety of processes – from changing the temperature and pH value to reducing

the contained elements, dissolved gases, organic and inorganic compounds, impurities, microorganisms and many more.

Various filtration and physico-chemical procedures have been established for controlling the quality of drinking water, most of which prescribe the addition of one or even several chemicals during the process. In this way, the level of toxicity is further increased. Consequently, the pollution of the water itself increases as well.

The impact of the chemicals used during treatment and their residues when this type of water is released into the environment must also be considered and properly regulated. As far as the disinfection of drinking water is concerned, chlorination is the most common and

## THE USE OF ECOLOGICALLY INDISPUTABLE CHEMICALS FOR WATER TREATMENT SECURES A SAFER, HEALTHIER AND NATURE-FRIENDLY LIFE.

dominant technology used. Such an addition of chlorine in the form of NaOCl or ClO<sub>2</sub> is generally not harmful and enables an efficient long-lasting effect even at low concentrations, but it also has the potential to form polychlorinated biphenyl compounds (PCBs) and trihalomethanes (THM), which are proven to be toxic and potentially carcinogenic compounds.

Aqueous solution of hydrogen peroxide – H<sub>2</sub>O<sub>2</sub> is a water-like molecule that represents an elegant solution, as it does not form toxic compounds. It has a high oxidation potential and decomposes from an ecological point of view into completely harmless substances, namely oxygen and water.

Hydrogen peroxide and its oxidizing powers are mainly used in the paper and textile industry for bleaching, e.g. the bleaching of cellulose and textile fibers. However, it can also decompose various unwanted impurities during drinking water treatment. It acts as a biocide which allows us to eliminate microbiological contamination. Unfortunately, the full extent of using hydrogen peroxide for such a treatment of drinking water, water sources, lakes and rivers in terms of solving organic, inorganic and biological pollution problems has not been recognized yet.

The Biocidal Products Regulation (BPR, Regulation (EU) 528/2012) concerns the launching on the market and use of biocidal products, which are used to protect humans, animals, materials or articles against harmful organisms. Belinka Perkemija is the first company to enter the European market with an approved BPR authorization for the family of hydrogen peroxide-based products, Belox<sup>®</sup>. The authorization includes the area of PT5 (product types 5) of biocidal products for water disinfection.

The use of Belox<sup>®</sup> products for water disinfection purposes are defined within three groups:

- disinfection of drinking water at suppliers and their distribution systems,

- disinfection of water in reservoirs and
- disinfection of water for animals.

Belox<sup>®</sup> (aqueous solution of hydrogen peroxide) offers a wide range of possible solutions for everyday challenges. At the same time, it does not cause any additional pollution or accumulation of chemicals because it decomposes into natural and non-hazardous compounds of oxygen and water.

Procedures for the preparation and treatment of drinking water and drinking water distribution systems with hydrogen peroxide are precisely defined and regulate where, when, how much and which concentrations of hydrogen peroxide can be added. It is also important to control the accumulation of chemicals at the end point, e.g. in the user's pipeline. Hydrogen peroxide is not the solution for everything, but it can offer a competitive replacement in many areas.

We believe that in the future, Belox<sup>®</sup> products can successfully penetrate the market of the disinfection of drinking water and drinking water distribution systems. Similarly, we have already succeeded in the aseptic packaging market. Two decades of development and preparation of special grades of hydrogen peroxide have led to success in the disinfection of various packaging units for the aseptic packaging of beverages, water, milk and dairy products.

Recently, the SARS-CoV-2 pandemic has greatly increased global awareness in the field of disinfectants, which includes hydrogen peroxide – a green chemical of the future.

On a global scale, market demands for hydrogen peroxide are growing each year. The existing industries and potential use of hydrogen peroxide on expanding new fields further encourage us to make use of new business opportunities.

The use of ecologically indisputable chemicals for water treatment secures a safer, healthier and nature-friendly life and thus a brighter and greener future for us. •



CURRENT DEVELOPMENTS AND TRENDS ON THE CHINESE COATINGS MARKET

# Clean, colourful and well protected

Jerry Huang

Committed to change, China has introduced numerous game-changing alterations under an umbrella project known as the “Blue Sky initiative”; an extensive shift to greener methods aiming to bring back the blue skies over China also has an impact on the coatings industry.

In 2018, China’s government released a “three-year action plan to win the battle for a blue sky”. The main goal of this plan was to improve the air quality and reduce VOC emissions. Based on the VOC remediation plan, China released several national standards on VOCs in coatings in 2020, GB 30981-2020, “Limit of harmful substances of industrial protective coatings”, is one of them. This standard sets strict VOC limitations on a large part of coatings and lower limitations for the formaldehyde content as well as the total content of benzene series. Thus, the Chinese government strongly supports the

development of waterborne coatings. The entire container industry in China has already switched to waterborne systems and the train carriage manufacturer will follow soon.

The new regulations on VOC not only affect China but also the European industry, especially if the VOC content of solvent-based coatings is higher than 550g/L, as their import will be banned. The news of the new regulation makes it clear how strongly connected the coatings market is on a global basis – as are the challenges during the COVID-19 pandemic. During the pandemic, all industries worldwide

were confronted with uncontrollable factors. Port congestions, container shortages and a continuously increasing lack of raw materials were challenges China had to face as well. Still, many Chinese companies are exposed to a very strong threat from the upstream supply chains. The situation has further impacts on the chemical industry in China. As solvent-based paint is declared a dangerous good, there are stricter controls on the DG product storage (Dangerous Goods Product Storage) in the Shanghai area. Therefore, the challenges are growing to keep reasonable inventory levels in China.



## THE COMBINATION OF DESIGN AND FUNCTIONALITY IS CLEARLY INCREASING IN THE BUILDING SECTOR.

### Sales developments in China's industries in 2020

Around 60% of the Asian Pacific region's (APAC) coatings volume is represented by China, which makes the country the **most important coatings producer** in this region. On a global level, China accounts for 28% of the coatings market\*. In 2020, there was a 2.6% growth on China's coatings market with the production of 24.59 million tons and 205.43 billion CNY sales revenue. In April and May, the market recovered strongly. After the pandemic, the first explosive growth could be seen in the field of architectural coatings, which grew by 70% compared to 2019, while the automotive industry retained a strong development resilience. With a drop of

2% compared to the previous year, the automobile sales in 2020 amounted to 25.31 million. The construction machinery was developing rapidly with a growth of 29%. In total, China imported 175 thousand tons of coatings, which is 3.2% less than in 2019.

### Construction industry on the rise

The global market is driven by the rise of the construction industry worldwide. The increase in the number of construction projects around the globe can be ascribed to the fast pace of urbanization. In China, the government is also constantly increasing the spending on reasonable housing facilities, which leads to a higher demand for houses. Furthermore, the growing



KANSAI HONGKONG



KANSAI HONGKONG



public-private partnership projects in China lead to a growth in the construction sector, which, in turn, increases the demand for industrial coatings in the APAC region. This pleasing development allows the coatings industry to breathe a sigh of relief. In addition, new markets pave the way for new coating developments and innovation possibilities. Especially the urban regions in China are developing extraordinarily fast. In that

course, the graffiti culture is increasing in many Chinese cities and the country's city councils require **high-quality coating solutions**, such as **anti-graffiti ceramic coatings** to keep the cities clean and the workload in this regard at a low level. Clean, colourful and well protected seems to be the overall trend in China's cities. The combination of design and functionality is clearly increasing in the building sector, which

leads to a growing demand for coating systems that protect the objects while giving them an interesting finish. For example, aluminum fence coverings for air conditionings, which used to be very monotonous and drab, are developing more and more to a design element on the building. •

\*National Center for Biotechnology Information (ncbi.nlm.nih.gov).

# First Summer School for Surface Technology

KR Ing. Hubert Culik, MAS



Surface and materials chemistry is one of the most important areas of the Austrian chemical industry and equally important in Europe. At the same time, there is currently a shortage of well-trained experts in this field. The IMC University of Applied Sciences Krems has now succeeded in developing a unique education program. Together with the Association of the Austrian Chemical Industry (FCIO) and the European Chemical Industry, the "Surface Technology" course – a completely new international continuing education format – was created. Course participants are equipped with both theoretical and practical skills in the fields of coatings chemistry, polymer chemistry and related industrial sectors.

**D**uring the five-week course, participants learn the fundamentals and specialized techniques of materials science and gain knowledge of production, manufacturing techniques and properties of important products such as paints, coatings and adhesives. Newly learned skills are tested in a practical laboratory setting. The course offers a high-quality additional qualification in a field that hardly provides any other training opportunities. The aim of the course is to help employees in surface and materials chemistry to strengthen and deepen their knowledge. It also aims to motivate students to take a closer look at this exciting specialty area and make themselves fit for a career in this chemical sector.



"We are very pleased with this additional offer for students and experts from the chemical industry," says Uwe Rinner, program director of "Applied Chemistry" and course director of "Surface Technology". Recognized experts from the field guarantee a high-quality education, which is a mixture of necessary basic knowledge from the fields of surface physics and applied chemistry. "A long-cherished wish of the industry for the further training of our employees to make them fit for the future is thus fulfilled," emphasizes Hubert Culik, chairman of the Austrian Chemical Industry Association. The course started in June 2021 and was a

complete success. In figures: participants from 6 nations, 20 instructors, approximately 100 hours of lectures, 40 hours of laboratory exercises and excursions, 13 ECTS (European Credit Transfer and Accumulation System).

In 2022 (20 June to 27 July), the content of the course will even be expanded, but the number of participants will be limited to grant a certain level of education. The development of innovative ideas for further courses and training programs to better our students and experts from the industry alike is currently the focus of the team at the IMC University of Applied Sciences Krems. •

"SHARING KNOWLEDGE ABOUT SURFACE TECHNOLOGY TOGETHER WITH EXPERIENCED PEOPLE WORKING ON THE FIELD AND DISCUSSING IT WITH INTERESTED PARTICIPANTS NOT ONLY PROVIDED A BROADER INSIGHT INTO THIS FIELD, BUT ALSO CREATED NEW MOTIVATION."

Lisa Metzner

„MEETING WITH INTERESTED PEOPLE FROM DIFFERENT FIELDS IN A PROFESSIONAL CONTEXT PROVIDED A COMPREHENSIVE INSIGHT INTO SURFACE TECHNOLOGY AND ENABLED A BROADER VIEW OF THE TOPIC. THE PROFESSIONAL EXCHANGE DURING THE COURSE NOT ONLY SHOWED THE HIGH COMPETENCE OF THE LECTURERS, BUT ALSO THE COMPREHENSIVE FIELD OF INTEREST AND THEIR FUTURE DEVELOPMENTS."

Sebastian Bischof

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# SUCCESS

“People become really quite remarkable when they start thinking that they can do things. When they believe in themselves they have the first secret of success.”

Norman Vincent Peale

Author and speaker



MITSUI'S APPROACH TOWARDS SUSTAINABILITY

# Transform and grow

Mitsuru Masunaga

“Build brighter futures, everywhere.” With this mission, Mitsui & Co., Ltd., KANSAI HELIOS’ second shareholder, makes efforts to create a better tomorrow for the earth and for people around the world.

The Japanese company Mitsui strives to address global challenges and meet the needs of its customers and partners when confronted with dramatic changes in the socio-economic environment. Together with the stakeholders, Mitsui aims to contribute to building a sustainable future in harmony with the environment as a responsible member of the global business community.

“We aim to serve the needs and expectations of stakeholders and society through the pursuit of our corporate mission and vision, guided by our values which

form the foundation of our daily decisions and actions” – this is how Mitsui expresses its **management philosophy as the foundation of its business.**

In order to achieve its **mission, vision** and **values**, the company has identified its **materiality**, which consists of five key material issues in areas that are important for its stakeholders. For Mitsui’s goal to realize sustainable growth together with society, each of these material issues has the potential to be a significant source of both risks and opportunities in a medium- to long-term perspective.



## SELECTED PROJECTS AND BUSINESS DEVELOPMENTS OF MITSUI, THAT ARE CONTRIBUTING TO THE ACHIEVEMENT OF THE SDGS (sustainable development goals)

### CREATE AN ECO-FRIENDLY SOCIETY

(accelerate initiatives towards environmental issues, such as responding to climate change and water resource problems, and contributing to a circular economy)



#### • Mitsui’s forests

Mitsui’s forests are company-owned forests in 74 locations across Japan, spanning a total area of approximately 44,000 hectares, which is equivalent to about 0.1% of Japan. Owning these forests serves the purpose of securing not only wood resources, but also the various other functions they offer that are beneficial to the public. These include protecting the water resources that are crucial to livelihoods, preventing

water damage, conserving biodiversity, supporting the development of culture and providing a space for education and relaxation. Mitsui continues to manage and maintain its forests in an appropriate manner so they can fully demonstrate these functions.

Mitsui is the only private company with large forest holdings to obtain the FSC® and SGEC international standard forest certification.



## MISSION

**BUILD BRIGHTER FUTURES, EVERYWHERE**

Realize a better tomorrow for earth and for people around the world.

## VISION

**360° BUSINESS INNOVATORS**

As challengers and innovators, we create and grow business while addressing material issues for sustainable development.

## VALUES

Our core values as challengers and innovators

### SEIZE THE INITIATIVE

We play a central role in driving transformation.

### EMBRACE GROWTH

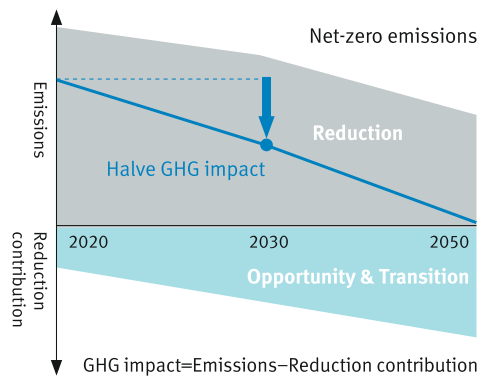
We drive our collective growth by continuously growing as individuals.

### THRIVE ON DIVERSITY

We foster an open-minded culture and multiply our strengths to achieve excellence.

### ACT WITH INTEGRITY

We pursue worthy objectives with fairness and humility, taking pride in work that stands the test of time.



● **Tackling climate change**

Mitsui has set a goal of realizing net-zero emissions by 2050. As a milestone for this goal, is reducing GHG to half of 2020 levels by 2030. Three initiatives are encompassed – “**Reduction**”, which involves reducing GHG emissions through portfolio improvement and emissions-cutting measures, “**Transition**”, which aims to make the energy used by society cleaner by promoting a conversion to alternative fuels, and “**Opportunity**”, which aims to expand business through opportunities that address climate change.

● **Providing solutions through low-carbon chemical businesses**

During the previous fiscal year, Mitsui decided to expand the capacity of Fairway Methanol LLC in the U.S., a

company Mitsui invests in, to make use of the carbon dioxide (CO<sub>2</sub>) emitted from nearby plants. A CCU (CO<sub>2</sub> capture and utilization) business is being built as part of this endeavour. This will result in carbon recycling, where CO<sub>2</sub> is reused in materials or fuel. Mitsui is also working on initiatives in the energy solutions area. One example is hydrogen and ammonia for fuel, which are expected to be sources of clean energy. Mitsui has built strong relationships and trust with clients through steady supplies of raw materials. Now, the company is leveraging these relationships by making use of trading assets such as vessels and tanks as well as gathering knowledge and experience not only in the chemical and energy segments but also in other segments.

● **Plastic recycling**

Mitsui has agreed to establish a PET recycling factory in western Japan (recycled PET resin production capacity: approximately 25,000 tons per year) through a joint venture with Veolia Japan K.K and Seven & i Holdings Co., Ltd. As a follow-on to this project, Mitsui will contribute to the establishment of a circular economy by utilizing its wide range of business assets

and global network to study and promote similar projects, to help solve the issue of plastic waste and other problems in Japan and abroad.

● **Circular economy**

Mitsui is developing a circular economy business that aims to achieve both an economic growth and a reduced environmental impact, creating added value

through resource circulation while reducing resource and energy consumption and waste generation. For example, Mitsui is collaborating with SHO-BOND Holdings Co., Ltd., Japan’s leading infrastructure maintenance company, to develop a comprehensive infrastructure maintenance business in Thailand that can meet the demand for preventative maintenance and infrastructure life extension.



**DEVELOP TALENT LEADING TO VALUE CREATION**

(respect diversity and develop human resources with the competence to create innovation and new value)



● **Diversity and inclusion**

“We consider our people to be our greatest resource. We encourage each and every member of our diverse workforce to recognize and respect each other so that they can demonstrate their capabilities to the fullest, creating innovation and generating sustainable value. In addition to developing systems and support measures that enable employees to participate even more actively, we have also been focusing on cultivating a corporate culture of inclusion and respect for diversity.”

● **Work-X**

Mitsui defines its offices as a space for value creation through serendipitous encounters and self-initiated collaboration. Work-X (Workplace Experience) is a company-wide project which aims to encourage a transformation in the awareness and behavior of each employee. Through Work-X, Mitsui carries out initiatives based on the themes of “agile and evolving” and “human-centric” to facilitate such a transformation.



MITSUJI'S HEAD OFFICE WHERE EMPLOYEES CAN CHOOSE THE WORKSPACE THAT BEST FITS THEIR WORK OBJECTIVE



**BUILD AN ORGANIZATION WITH INTEGRITY**

(strengthen our governance and compliance as a corporate group trusted by society)



● **Mitsui & Co. Group Conduct Guidelines – With Integrity**

In order for the Mitsui & Co. Group to continue to be a corporate group that is genuinely trusted by society, Mitsui is taking steps on a global group basis to build an organization that demonstrates integrity. “We formulated the guidelines and shared them across the group to clarify our basic approach towards integrity and compliance, and each employee incorporates these

guidelines into their daily work so that we can continue to respond to the trust placed in us by society with good faith and sincerity.”

Mitsui continues to respond seriously and sincerely to the trust and expectations of its stakeholders while also contributing through its wide-ranging business activities both to sustainable global social development and to the solution of global-scale issues. •



# E-coat and powder coating solutions meet industry 4.0

Bine Pangršič

One of the most modern, fully digitalized coating lines in Italy is relying on HELIOS' competence in the field of industrial coating solutions. Zanardo S.p.A., the Italian producer of metal carpentry for electrical systems and industrial automation, developed a state-of-the-art coating line using the innovative and environmentally friendly e-coat technologies and powder coatings produced by Helios Coatings Italia that serves as their system supplier. A success story of exceptional cooperation, high-quality coating solutions and increased productivity in the coating process.

**A** major production part of Zanardo undergoes a cathaphoresis treatment at the new and completely automatic line, while some parts of the cabinets are also powder coated. A perfect match of color shade, gloss and other important paint characteristics needs to be guaranteed for the premium finish of the end products.

As a system supplier and expert for industrial coatings, KANSAI HELIOS is aware of these requirements and was therefore able to provide Zanardo with its **high-quality powder coatings and e-coat solutions**. Due to its excellent characteristics and advantages, our customer decided on the innovative **Elecron LB 280** e-coat instead of using a conventional acrylic coating system.

**Low-yellowing and eco-friendly for a premium finish – the perfect match of e-coat and powder** Elecron LB 280, developed by KANSAI PAINT, is a water-based 2-component epoxy coating system which was specially developed for the ACE market as well as the automotive and transport sectors. This e-coat boasts **low-yellowing characteristics** after the annealing of the powder-finished surface.

Due to its very low solvent content (less than 1.5%), it is one of the most environmentally friendly coatings on the current e-coat market. The low curing temperature enables remarkable energy savings. Excellent corrosion protection, perfect surface coverage with an exceptional visual appearance and a high color stability complete the high-quality coating package

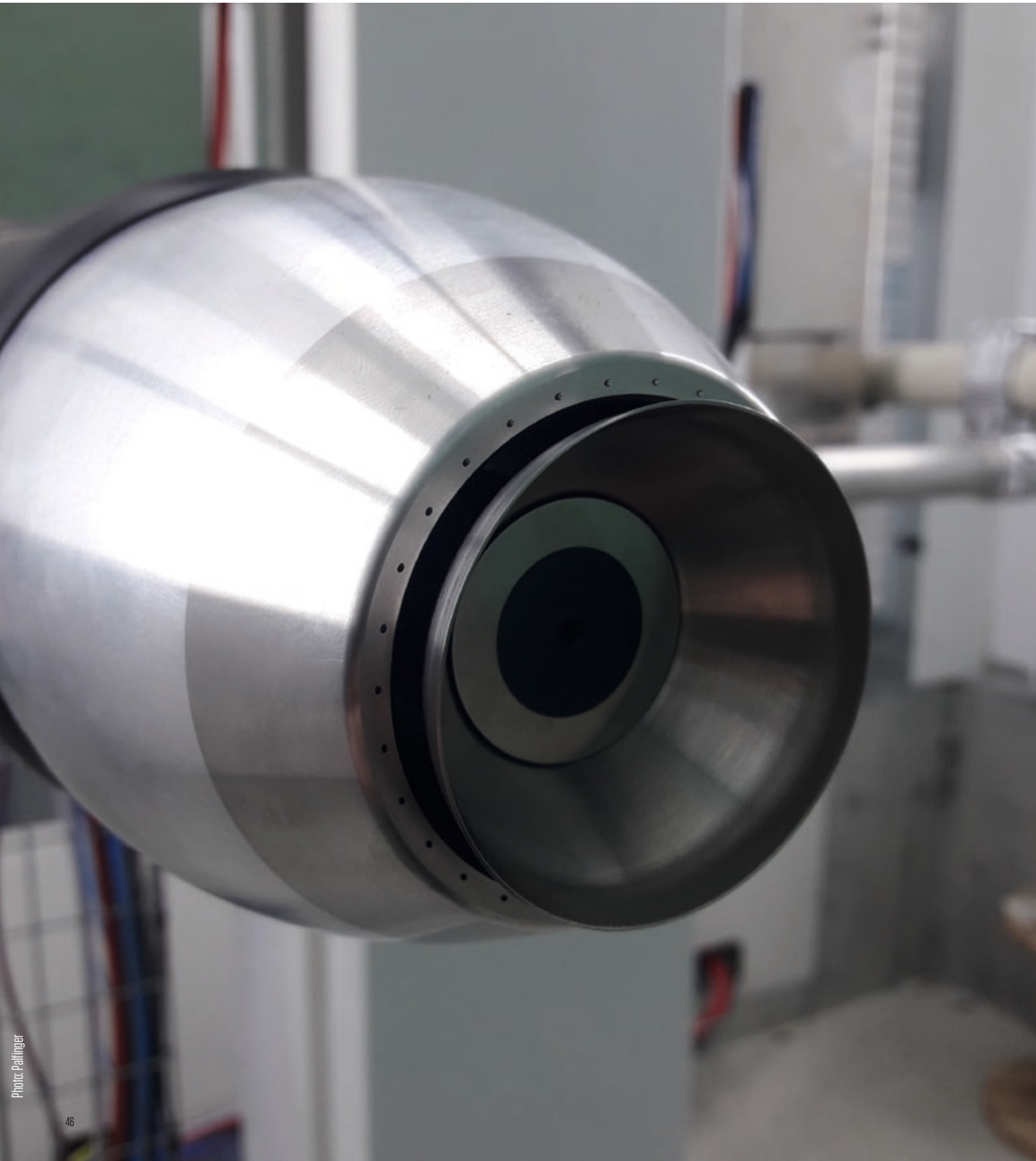
of Elecron. Consequently, it is the best choice for manufacturers who want to achieve the perfect finish in combination with liquid or powder coating systems. At Zanardo's coating line, **epoxy-polyester river texture powder** with low film thickness is used for the finish. The product from our Ecopolifix™ range belongs to our fast-curing series of products that are U.L. approved and tested for atmospheric corrosion protection of steel enclosures of electrical equipment.

We are proud to offer you insights into this modern coating line in our latest video on our **YouTube channel: HELIOS Industrial Coating Solutions**.

For more information about our e-coat and powder coating product assortment as well as all other coating solutions, please visit [www.helios-industrialcoatings.com](http://www.helios-industrialcoatings.com).

DUE TO ITS VERY LOW SOLVENT CONTENT, ELECRON LB 280 IS ONE OF THE MOST ENVIRONMENTALLY FRIENDLY COATINGS ON THE CURRENT E-COAT MARKET.





# Creating value together

Dietmar Jost

How a vision, the combination of the right partners, team spirit and unwavering commitment turned into a successful project for Palfinger. The installment of a state-of-the-art painting line works with the newest development of KANSAI HELIOS coatings.

**A**s the world's leading provider of innovative crane and lifting solutions, Palfinger accepts the challenges of the present and innovates solutions for the future.

Following the motto “**Creating value together**”, Palfinger maintains a very close relationship with its customers and business partners. Based on this core competence, Palfinger understands their challenges and needs and makes them its own. In doing so, Palfinger thinks beyond the product and develops solutions with additional benefits together with and for its customers. Palfinger literally creates values together. This vision is supported by employees who live the company values – entrepreneurship, respect and learning – on a daily basis. That is why Palfinger supports and encourages its employees in accordance with the tagline: “**We value people. People create value**”.

The company is also well known for its thought leadership in terms of paints and coatings. As one of the first industrial producers, Palfinger focused on truly environmentally friendly coatings from very early on. Only leading-edge technology in terms of quality, process and environmental responsibility is good enough to meet the high expectations of Palfinger.

## **Innovative coating line in Bulgaria**

With the implementation of a new painting line in Tenevo, Bulgaria, Palfinger made its next step towards this strategy. The installment of a modern robotic painting line with rotating bell application works with the newest development of KANSAI HELIOS coatings in terms of waterborne industrial paints. A 0% VOC waterborne epoxy primer combined with a less than 5% VOC waterborne PU topcoat could convince Palfinger to start its collaboration with KANSAI HELIOS. The whole paint concept is embedded in an environmental logistic process that also ensures the recycling of the paint sludge. 300,000 cylinders per year are produced on this line in three workings shifts. The whole service concept is carried out by KANSAI HELIOS and its long-term technology partner Dixi in Bulgaria.

“I am proud of the local Palfinger team as well as KANSAI HELIOS and Dixi. This professional collaboration made it possible to realize a successful project on time, meeting all project criteria, even under COVID-19 circumstances”, says Mr. Wolfgang Pilz, surface technology manager and responsible for the project at Palfinger Group.

This project at Palfinger Tenevo is a breakthrough for the coating landscape in Bulgaria and makes everyone involved very proud. It shows how modern technology and thought leadership can combine economic growth with sustainability. Thinking globally and acting locally was a key success factor for this project, and with the intensive work of Dixi in Bulgaria, a strong partnership and real collaboration between the Bulgarian local teams could be established very quickly.

## **Interconnected and efficient**

Due to its high level of innovation, the paint development by KANSAI HELIOS took place at two R&D centers – one in Preska, Slovenia, and one in Vienna, Austria. A strongly interlinked project management led to fast and efficient development circles. All stakeholders including the design and coating equipment manufacturers were already connected by the Palfinger project management very early on in the project to ensure positive project results.

“This innovative and highly efficient coating application together with the most modern way of industrial coating application will inspire many followers in Bulgaria, making the industrial landscape competitive and fit for the future”, says Mr. Yavor Gatev, responsible manager at Dixi. •



DIXI'S TRANSFORMATION INTO A WELL-KNOWN COATING SYSTEM SUPPLIER IN BULGARIA

# Taking off the shoes and stepping into a new business

Yavor Gatev, Jadranka Orlović, Nataša Milićević

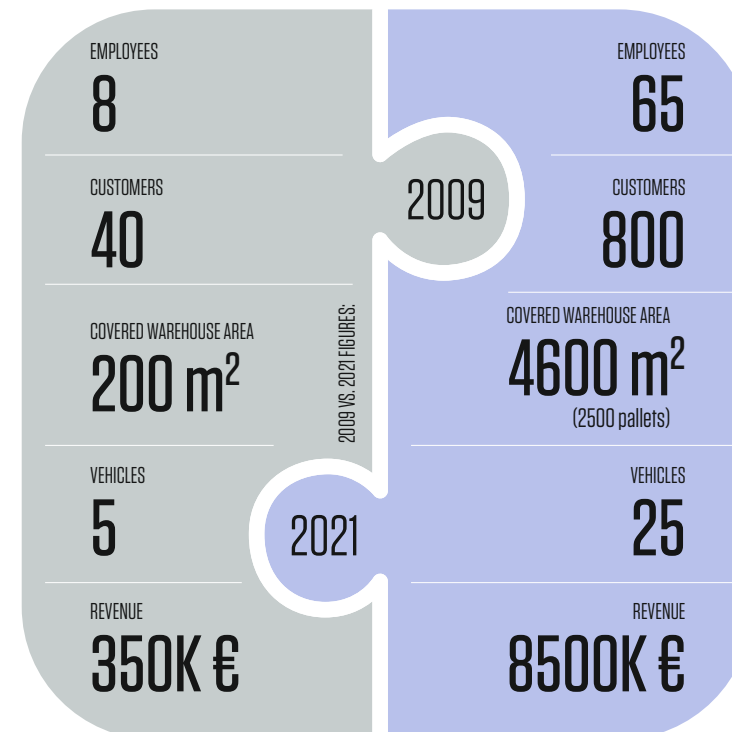
During the past 25 years of its existence, KANSAI HELIOS' partner company Dixi has managed to become one of the largest coatings distributors on the Bulgarian market. It was a journey that was not only dedicated to "surviving" but rather to a continuous process of working, learning, improving and developing. And this journey is not over yet – the 25 years anniversary is an even greater motivation to continue this path in the future. This means following branch trends, responding to customer requests and providing the highest quality products and services. The success of the company in the coatings industry is even more impressive if you take a look at its starting point.

**S**tarting from zero  
The 90s were the decade of the shoe industry. Back in 1996, Dixi was founded by Petar Hinterleithner, Stanislav Kossev and Ivan Gatev as a trading company for machines, materials, technology and services for the shoe industry in Bulgaria. Dixi represented famous companies such as Texon and Salamander from Germany and USM, Bohler and Dolezal from Austria. With more than 200 employees and 80% of the market share, Dixi established a production facility for subproducts for the shoe industry. After ten years of successful business, the shoe production moved from Europe to Asia. Thus, Dixi's core business started to decline steadily. The shoe production in Bulgaria dropped from 12,000,000 pairs to 1,500,000 pairs per year and the business became highly inefficient as it was designed to serve big customers with high volumes. It was more than obvious that a transformation was necessary – not only to secure the survival of Dixi, but also because of its responsibility for its employees and their families.

Soon afterwards, this transformation also reached the coatings industry. It started in 2008 with the first contact with Rembrandtin Lack and Christ Lacke in Austria. Starting a coatings business without any experience in the field was not an easy decision for Dixi. There was a lack of knowledge about products, standards, competition or price levels. Starting from scratch, Dixi took the opportunity to create the design of the new organization from a blank sheet of paper. The strong motivation to learn and face new challenges as well as the desire to be emotional, which is contradictory to the general perception of the business policy, where no emotions should be included, resulted in the start of Dixi's new business era. In 2009, Dixi could finally breathe a sigh of relief, as it was able to sell the shoe industry business with the certainty that none of the employees would lose their job. This ensured that all employees and their families would be financially secured during the financial crises at that time.

**A new era for Dixi**  
At the beginning of the cooperation between Dixi and Rembrandtin Lack, Christ Lacke and Rembrandtin Powder Coating in Germany, the key areas of competence were coating systems for the railroad sector and the machine-building sector. The company was perceived as a family business. Today, the three sons of the founders of Dixi, Yavor and Kaloyan Gatev and Georgy Kossev, play an important role in the business development.

In 2010, the company attracted its first bigger customers. During the next years, they proved to be the backbone of the business and subsequent success – companies such as Traction JSC (production of railroad cargo carriages), Transwagon JSC (production of railroad cargo carriages), Podemcrane JSC (production of cranes) and Kyashiv Ltd (production of hydraulic cylinders). These companies are well known throughout Europe, as they are exclusively export oriented. After 11 years, the company Dixi has proudly been recognized as their exclusive supplier for coating materials.



INNOVATIONS / INVESTMENTS

- Elcometer inspection equipment
- Wagner and Graco application equipment
- Laboratory for color measurement accuracy – for demanding customers and projects
- New state-of-the-art warehouse with a capacity of approx. 1800 pallets
- Training center
- Marketing department mainly focused on social media marketing, special events, brand promotion at customers
- Photo studio for the creation of own marketing materials, promo videos, review videos etc.
- Online shop



## THE QUANTITY OF INTERIOR WALL PAINTS THAT HAVE BEEN SOLD ON THE BULGARIAN MARKET BY DIXI IS ENOUGH TO CIRCLE THE EARTH WITH A 5 CM WIDE STRIPE.

A huge part of the success in those first years was based on the help and training support from Dietmar Jost and Ilona Szöllösy, who were first colleagues and then friends. A great cooperation was established between the individual teams and the company's competence has increased to a high professional level.

### A well-known system supplier in Bulgaria

Dixi is an exclusive, loyal and trustworthy partner of KANSAL HELIOS in Bulgaria, with strong connections to all KANSAL HELIOS companies in Slovenia, Serbia, Italy, Austria, Germany and Croatia. Today, the company is known as a system supplier for corrosion protection (steel construction, infrastructural construction, plant construction, pylons), industrial coatings (machine-building sector, cranes, hoists, ACE), railway coatings (freight wagons, boogies, passenger wagons), powder coatings (machine building, metal cabinets), industrial wood coatings (furniture), floor coatings and architectural coatings. Customers benefit

from a well-developed network of mixing systems and the strongest competence areas in interior wall paints and wood protection. But Dixi became also one of the biggest suppliers in terms of quantity. The quantity of interior wall paints that have been sold on the Bulgarian market is enough to circle the earth with a 5 cm wide stripe, the area which was protected by wood coatings in Bulgaria equals the area of 50 stadiums.

Thanks to the commitment of Dixi, the group's system solutions have found their way to different valuable key projects that became important references of the KANSAL HELIOS Group. Some of them are:

- Bridges at A1 Hemus highway
- Hydraulic cylinders produced in Bulgaria for the companies Komatsu, John Deere, Terex and Wacker Neuson
- Cargo carriages for Cargo Beamer, OnRail, ERR, VTG
- VMA hospital (interior walls), National Library in Sofia (TIS façade system)
- Palfinger project – bell robot application with waterborne epoxy primer and wa-

terborne PU topcoat, with the teamwork of KANSAL HELIOS (Slovenia), Dixi (Bulgaria), Hausleitner & Schweitzer (Austria), Kluthe (Germany), Sams & Cramling (Germany) and RailTeck (Netherlands) during the COVID-19 restrictions from 2020-2021

### Technical service, local support and quick reactions

Dixi is strongly focused on professional and competent customer service. Special attention is paid to international working standards which contribute to a lower risk for all parties involved, traceability and a framework for good practices and regulate objections and environmental protection. State-of-the-art tinting systems for industrial and architectural coatings enable a faster production and the possibility to fine-tune individual color shades and deliver smaller quantities. Materials are always available in stock with a delivery in 48 hours anywhere in Bulgaria. Customers can rely on technical service on their site within 24 hours. Analyses or tests directly at the customer site are

possible with the Dixi Mobile Lab. With a clear focus on efficiency and environmental protection, Dixi provides high-quality products and effective quality control with less than 0,02% claims.

### Providing and sharing professionalism and efficiency

Dixi provides the perfect combination: serving high-quality protective coatings and at the same time analyzing and optimizing their painting processes. Higher process efficiency leads to cost reduction (the costs for the process itself account for approx. 70% of the total costs) or increased productivity (the current bottleneck of most factories is the painting process). The intensive know-how and professionalism of Dixi's employees are the company's most valuable assets and the keys to sustainable development. The knowledge gained over the years is shared with customers through the Dixi Academy. This training platform, based on and inspired by KANSAL HELIOS' Master

Classes, covers all areas of paintwork, includes basic courses as well as specialized classes for professionals. Upon customer request, individual classes for customers and their requirements are designed.

Following the strategy of the whole group, environmental protection is one of the top priorities of Dixi. Besides offering environmentally friendly products with a low carbon footprint, Dixi also pays special attention to the collection and processing of waste thinners from customer productions. In 2020, over 100,000 liters of thinner were collected and processed that did not pollute the atmosphere, water or soil. The service is free of charge to Dixi's loyal customers, which brings them a huge added value.

Strengthened by overcoming all challenges in the past and the great integration into the KANSAL HELIOS network, Dixi is looking towards a promising future with joint achievements, top results, long-term cooperation and mutual satisfaction. •

In 2021, a growth of approximately

# 25%–30%

is expected, with the opportunity for growth in every sector:

**Corrosion protection** – cooperation with the biggest manufactures of steel construction in Bulgaria. The target is to receive certifications and approvals on the group level, so the company can take part in big international projects that are executed in Bulgaria (e.g. oil and gas industries).

**Industrial coatings** – huge potential in the ACE sector, mainly hydraulic cylinders and agricultural machines;

**Architectural coatings** – cooperation with big chains like Praktiker and Mr. Bricolage (in progress); due to our cooperation with Wagner (construction machines), able to provide solutions for more efficient and less personell intensive processes to professional customers (construction companies); e.g., the possibility to apply 500 m<sup>2</sup> of facade plaster for 6 working hours.

QUALITY, FLEXIBILITY AND EFFICIENCY ALONG THE LINE

# First coating line for agricultural trailers with cutting edge coatings system

Matjaž Škofic

Products that are permanently exposed to extreme conditions require a high paint quality with very good corrosion protection. That is why the Austrian commercial vehicle and agricultural machinery manufacturer Brantner coats its vehicles with modern e-coat and powder coating technology – in an environmentally friendly and economical way.

Environmentally friendly and efficient coatings are on the cutting edge of today's technology. Especially products that are permanently exposed to extreme conditions require a top coating quality with excellent corrosion protection. The Austrian company Brantner, one of KANSAI HELIOS' long-term customers, is a pioneer of the industry who uses state-of-the-art e-coat and powder coating technologies to protect its vehicles. In 2020, a modern surface technology plant was installed directly at the Brantner site. With this modernization, Brantner enhances its product quality further and, at the same time, adopts an environmentally friendly process technology. The plant is also designed to provide toll coating services. Let us take a look behind the scenes of a cutting-edge surface technology plant and the perfectly adjusted coating systems.



PARTS THAT ARE UP TO 16 M LONG AND 4 TONS HEAVY RUN THROUGH THE STATE-OF-THE-ART SURFACE TECHNOLOGY PLANT AT THE BRANTNER SITE.

COATING SPECIALISTS AND INDUSTRIAL ENGINEERS COOPERATED CLOSELY TO DEVELOP THE MOST OPTIMUM SOLUTION FROM A PERFORMANCE AND COST PERSPECTIVE.

For more than 75 years, Brantner has been counting on local production and top product quality. Years of experience and its success prove the market leader right. Up to the present, the company has produced more than **128,000 trailers (tippers, push-off trailers, manure spreaders)**.

“You can only ensure outstanding quality if you make a product yourself. Following this motto, we manufacture 100% of our products in our own plant. Our vehicles are exposed to extreme stress such as abrasion, weathering and UV radiation and therefore require, above all, an optimum corrosion protection to ensure their durability. Accordingly, we choose our coatings technologies with greatest care”, says Mag. (FH) Hans Brantner, Managing Director of Brantner.

The entire manufacturing process takes place at the Brantner site in Laa an der Thaya including cutting, moulding and welding components and units with modern laser and robotic technology, the coating and assembly of the vehicles as well as quality control. In addition to excellent corrosion protection, the final products provide extreme weather and UV resistance as well as a premium finish in the Brantner design – features which can only be created with an optimum coating system. With the combination of **e-coating and powder coating**, Brantner has chosen a system which meets all quality requirements for coatings for trailers and other agricultural and construction machinery and provides the best protection from corrosion.

## Brantner as a coatings pioneer for trailers and agricultural equipment

As an innovative company and market leader in agricultural trailer manufacturing, Brantner focuses on the constant optimization of production processes combined with high-quality coatings technologies. Brantner is the first company in the sector to convert the coating process to e-coat and powder coating technology with the aim to achieve a stronger technological performance, higher robustness and reduced production costs. Furthermore, the company can share its experience with others in the sector: high product quality and the environmentally friendly process technology also convince other manufacturers who use the toll coating services at the Brantner site for their agricultural equipment and trailer parts, some of which are up to **16 meters long and weigh up to 4 tons**.

“The conversion to the new plant was a huge project. We worked closely together with our long-standing partners and specialists to develop the technical equipment as well as the coatings. Without close coordination, services and expert know-how, a successful implementation would not have been possible”, says Hans Brantner. “We are proud to share this success with other companies who use the coating services at our site.”

## Pretreatment and coating perfectly aligned

In cooperation with KANSAI HELIOS, the modern surface technology plant was



HB BRANTNER



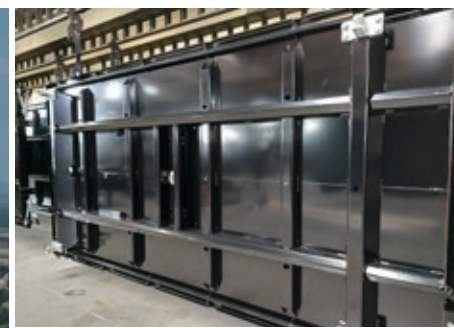
HB BRANTNER

designed specifically for e-coat and powder coating application and aligned with surface pre-treatment. Coating specialists and industrial engineers cooperated closely to develop the most optimum solution for Brantner from a performance and cost perspective. Individual process steps are designed in a way to ensure that the process runs as quickly and efficiently as possible:

After degreasing, parts can be optionally treated with acid (acid etching or pickling) prior to tri-cationic zinc phosphating. In the next step, a cathodic epoxy coating is electrodeposited onto the parts while the parts are immersed into the e-coat tank. After the deposition, the parts are rinsed with permeate to remove and recover excess e-coat paint. The painted parts are then cured in the e-coat oven and moved to a buffer to cool down before they are trans-

ferred to the powder booth, where the final layer of powder topcoat is applied. In order to ensure the best performance, the powder topcoat is oven cured.

This process is cost-effective and meets the **highest industry standards in the field of corrosion protection** because of the optimum combination of KANSAI HELIOS' e-coat and powder coating systems. Both the powder coatings and the e-coats are very environment friendly. Powder coatings are solvent-free, while e-coats have an extremely low solvent content (in the case of Elecron 1.5 %). The product provides an excellent corrosion protection, perfect surface coverage and high colour retention – particularly when combined with powder coatings which are perfectly adjusted regarding the colour shade, gloss level and durability. •



HB BRANTNER

# #Reuse – Belinka's sustainable story

Petra Slabe

People have developed a heightened awareness – especially for the environment and health. Today, they want to actively participate in improving the world and make a valuable contribution to the health and future of humanity and the planet. Belinka's #Reuse campaign inspires them to do just that.





GASPER WITH HIS MOSAICO BRAND IS PRODUCING HANDMADE WOODEN FURNITURE, WHOSE CHARACTERISTIC FEATURES ARE MINIMALIST LINES AND PERFECTED DESIGN.



NIKA FROM NIKA'S TINY HOUSE IS ONE OF BELINKA'S AMBASSADORS, WHO ENCOURAGE THE REUSE OF DISCARDED AND USED WOOD.

**D**id you know that since the beginning of civilization, the number of trees around the world has decreased by about 50%? It is a frightening fact that was too often overlooked and ignored in the past. Recently, however, this trend has been reversed, mainly due to constant pressure from environmentalists and various activists. Younger generations are more conscious of the environment and want to operate sustainably. Therefore, it is not surprising that re-use trends have emerged in various areas, including wood handling.

Caring for wood and creating products that are more user and environmentally friendly with each

generation has always been at the core of Belinka's efforts. Environmental priorities and sustainable development are an important part of the brand philosophy. The impact on people and the planet is already carefully considered in the planning phase for new products. This philosophy underlies Belinka's environmentally friendly products.

**Strong connection to nature**

Belinka expresses responsibility for the environment and nature by initiating activities that promote a positive attitude towards wood, connect people with nature and encourage a healthy and sustainable way of thinking. The brand's latest sustain-

able project is a campaign to reuse old wood, named clearly and simply #Reuse. The campaign goes hand in hand with emerging trends and the brand's philosophy and goals.

**You are the protagonist of a sustainable nature**

Wood is an almost timeless raw material that needs love and protection to be able to serve us faithfully for many years. That is why it should be rediscovered and reused. Using reclaimed wood in your home or bringing in products and objects from already treated wood is not just about being environmentally friendly but also about telling the wonderful story of sustainable nature, in

which you are the protagonist. This is the message that Belinka wanted to communicate with the #Reuse campaign.

Three young and inspiring ambassadors supported the campaign encouraging the reuse of discarded or used wood. Each of their individual stories taught a very important lesson, namely how to act sustainably and responsibly with regard to wood and the environment. This approach will continuously drive Belinka to stay even closer to the latest trends regarding environmental protection and the preservation and reuse of wood and thus support a sustainable development of the environment – for both people and the planet. •



TWO CREATIVE BLONDE WOMEN, ANA AND EVA, ARE BEHIND WOOD & BLONDE, WHO HAVE TURNED THEIR LOVE OF WOOD INTO A REAL SUCCESS STORY.

**ONLY A FEW RAW MATERIALS CAN BE REUSED AS CREATIVELY AS WOOD.**

# FOUNDATIONS

“The greatest threat to our planet is the belief that someone else will save it.”

Robert Swan

# Environmental awareness along the entire value chain

Roman Pirnat

In recent years, KANSAI HELIOS has been intensifying its activities for environmental protection. The company developed and designed solutions which not only protect objects, but also significantly extend their lifetime. As a chemical company, however, the company's responsibility goes much further to make a valuable contribution to the future of our planet and society.

At KANSAI HELIOS, we strive to be one step closer to a greener production with every activity we do. Our clear focus is on the development of environmentally friendly coatings and the optimization of all production processes towards a greater resource conservation and sustainability.

Accordingly, our group invests intensively in its ESG (Environmental Social Governance) management. Until today, we have developed a wide range of innovative resins and coatings that enable us to reduce the consumption of all types of resources and minimize our carbon footprint. Ultra-high solids as well as solvent-free and water-based resins and coatings are the modern key technologies in this context. In the formulation of all products, raw materials from renewable resources are gradually replacing conventional materials. In addition, we are collecting waste solvents from production and reusing them with special distillation procedures while continuously increasing these capacities. Many

production sites are already using electricity from renewable sources and our resins plant is an ISCC PLUS certified site for the use of sustainable raw materials.

## First solar power plant

Since the beginning of 2021, the first solar power plant in KANSAI HELIOS has been successfully in operation. The modern and powerful panels are located in Preska, Medvode in Slovenia. They generate an average of 290,000 kWh of electricity per year, which is equivalent to around **10% of the local electricity demand**. Solar panels produce electricity by transforming the continuous flow of energy from the sun into electricity. When creating energy with solar power, no greenhouse gas emissions are released into the atmosphere. As the sun provides more energy than we will ever need, electricity from solar power is a very important energy source on the way to clean energy production. However, the only limitation of solar power is our ability to turn it into electricity in an efficient and cost-effective way.

**"AS A CHEMICAL COMPANY IT IS OUR RESPONSIBILITY TO CONTRIBUTE TO OUR PLANET AND SOCIETY. TOGETHER WITH KANSAI PAINT, WE ARE WORKING ON COMMON SUSTAINABILITY PROJECTS AS PART OF OUR ESG MANAGEMENT."**

## Wastewater and solvent treatment

With the aim to optimize the industrial water treatment process in our production, we introduced a batch oxidation process of industrial water using hydrogen peroxide and UV radiation. The water treated in this **automated oxidation device** – around 5 m3 per day – is transported to the central wastewater treatment plant for biological treatment and then returned to the environment. After a one-year test phase, the process proved to be economically efficient and environmentally friendly.

Furthermore, solvents are also a major issue in paint production. Among other purposes, they are used to wash equipment as well as transport containers, mixing tanks, filters or tools. Due to the large amount of solvents, the disposal of the resulting waste is time-consuming and expensive. Therefore, a new distillation unit for contaminated solvents was installed in 2020. This **OFRU ASC500 distillation device**

is significantly more efficient than the original unit. Thanks to a lower energy consumption and automatic operation, significant savings in materials, energy and waste have already been achieved.

## Creating a greener future today

All the measures implemented to date and those planned for the future support the sustainability strategy of the group. With the continuous development of environmentally friendly paints and coatings, improved processes, a focus on employee health and safety as well as intensive research and development, we are making our contribution protecting the climate and the environment. These efforts are lived by all our employees. As part of the internal "We turn it green" initiative, we are deliberately avoiding the use of plastic cups, reducing paper consumption and using resources more consciously. •



THE FIRST REALIZED ENERGY SAVING PROJECTS REPRESENT A MAJOR STEP ON THE PATH TO A SUSTAINABLE COMPANY AND A REDUCTION OF CARBON FOOTPRINT AND ARE MARKING JUST THE BEGINNING OF MANY PLANNED IN THE FUTURE.





# Getting to know Kansai Nerolac – one of the largest coating companies in India

Poddar Manish, Kansai Nerolac

Hard work and passion, commitment and courage, marching ahead with fearless innovation, investments in the environment and ESG (Environmental Social Governance) as well as believing in the product and resolute determination: These are some key principles behind the impressive success story of Kansai Nerolac, which has risen to one of the largest coating companies in India with a leadership position in the Indian industrial paint market. At the same time, these are the commonalities that connect the company with KANSAI HELIOS Group and its European partner companies. When reading this short company profile, you will detect more of these commonalities as well as significant differences when it comes to the coatings market.

At “India is full of surprises!”, as the Coatings World Magazine stated in 2020. This was strongly related to the unlikely coatings market share of decorative and industrial coatings. While the common coatings markets’ share in the Asia-Pacific region is almost equal between decorative and industrial paints, India shows a different picture: Architectural paints count for 75% of the total market share, leaving 25% for industrial paints – despite the continuous progress in India’s industrial development.

However, Kansai Nerolac serves both segments and is offering high-performance liquid and powder coatings on the industrial market. In the decorative market, the company offers for example construction chemicals, adhesives and high-end wood finishes and it has entered the sealants and underbody segment in the automotive sector. Kansai Nerolac is the market leader in automotive paints and powder coatings and places a special focus on functional coatings such as rebar, heat-resistant powder coatings and extremely durable powder coatings.

Similarly, in performance coatings, the company offers high-end performance coatings for bridges, metros and pipes. As a future-focused company rooted in innovation, Kansai Nerolac bespeaks quality and manufacturing excellence, which makes it a preferred choice of a growing and ever-evolving customer base that relies on Nerolac’s promise: “We design solutions that ‘Protect, Inspire and Touch Lives’ every day.”

## Overcome challenges and taken chances in 2020

In 2020, everyday life was especially challenging all over the world. Also in India, the last year showed an unprecedented destruction of demand across all industries as well as global supply chain disruptions and a considerable volatility in material prices that scaled new heights. Managing this situation and the uncertainty called for resilience. Kansai Nerolac rose to the occasion and demonstrated this spirit of resilience – whether in the factories, at customer sites, at R&D facilities or even directly in the market. While the revenue of the company dipped marginally, the company experienced an increase in its EBITDA margin and cash flows.

## ESG management and sustainability

- 10-fold increase in electricity from a renewable source
- 98% of process heat and steam from a renewable source
- 30% reduction in GHG emissions
- 20% reduction in specific water usage
- Zero liquid discharge at all manufacturing plants
- 21% reduction in specific hazardous waste generation

These figures are a glimpse of Kansai Nerolac’s ESG journey in the past 6 years. As a responsible organization, the company adopts a holistic approach towards environmental sustainability. The company has been actively working on its sustainability agenda for more than a decade and has put ESG at the center stage of its strategy. It has incorporated ESG parameters from product design stage to product usage stage. With respect to reporting, KNP published the 1st Environment, Health & Safety report



KANSAI NEROLAC

in 2004. In 2012, Kansai Nerolac (KNP) published its 1st sustainability report as per the GRI guidelines. From 2018 to 2019, KNP published an integrated annual report.

## High-performance technologies for “Colours that Care”

In 2020, Kansai Nerolac unveiled its new brand identity. As the company constantly endeavors to create an ‘environment of care’, their new brand positioning of ‘Colours that Care’ resonates with this philosophy. It is an integral part of the company identity and a living manifestation of the care that it offers in an ever-changing world.

Especially in the field of technology, the world is changing fast and new product developments are demanded. Kansai Nerolac has been focusing on best-in-class technical

services and value-added solutions which are environment friendly, energy savings, improved finish and higher productivity. Not at least because of these efforts, the company has reached its strong market position today. Key industry differentiators include many first-to-market customized products such as Medium High solids, Low VOC products, Direct to Metal Anticorrosive Technologies, Zero Bake Technology.

One of the common goals of KANSAI HELIOS, Kansai Paint worldwide and their daughter companies is the strong focus on environmentally friendly products, solutions and processes. Therefore, Kansai Nerolac will also focus on environment management, energy conservation, safety and quality management in the future. •



KANSAI NEROLAC



THE HIDDEN THREAT

# Corrosion under insulation and its prevention

Dr. Christoph Auner

All over the world, refineries are the engine of a stable economy. Thousands of kilometers of pipelines bring them to life and ensure the production of products of our everyday lives, for which the demand for refined products has steadily increased. The immense pressure to increase production often results in a postponement of sufficient inspection and maintenance. This can cause enormous problems, especially in those areas where corrosion is not seen at first sight: under the insulation. A special coating system for these sensitive areas effectively prevents corrosion under insulation (CUI).

The main influence factors for CUI are water in the insulation, corrosion stimulators (sulphates, chlorides), operating temperatures and the quality of the insulation material. In fact, 60 to 80% of pipeline repair is caused by CUI, which makes this phenomenon literally a hidden threat of the industry, which is also due to the variety of triggers. Cyclic temperature changes, areas with a reduced flow rate (e.g. dead ends), temperature gradients within a pipe or water caused by insulation failures are technical factors which are influencing the CUI phenomenon.

## The demands of a highly sensitive industry

Refineries consist of several processing plants that are interconnected by piping systems. To ensure processing operations with low energy losses, most of the process equipment and piping is insulated. In order to prevent the ingress of liquid, the insulation is waterproof. However, if the insulation is damaged by mechanical or other external influences, corrosive media can reach the surface of the components. This is usually water, which is contaminated with chlorides and sulfates and can lead to CUI. In particular, carbon steel and stainless steel in the operating range from  $-4^{\circ}\text{C}$  to  $175^{\circ}\text{C}$  (according to NACE Report SP0198-2010) is affected. The CUI corrosion rate depends on the temperature as well as the internal and external sources of contamination. These factors are highly unpredictable and therefore the detection of CUI is very complex and time-consuming.

A typical pipe insulation is applied for reasons of personal safety, energy efficiency, control of process temperatures, cold protection and fire protection.

As highly sensitive infrastructure parts, pipelines need to be protected to the maximum extent possible. Therefore, this market requires effective solutions to keep the costs for maintenance low.

Besides temperature and corrosion protection performance, the applicability under

various conditions is a very important factor when it comes to plant revisions. For the plant operator, it is an enormous advantage if a complete plant shutdown during a revision can be avoided, as production downtime costs and general service costs can be prevented.

## Special coating systems prevent CUI

Considering all these special demands of the industry, highly innovative coating solutions are required. We answer to these needs with specially designed and adapted systems that match the demand for **highest corrosion protection, high heat resistance, a good surface temperature tolerance and an adequate environmental performance**. Due to the special conditions of the industry, these systems also have to guarantee a simplification of application with respect to the special conditions during a plant revision.

Rembrandtin has developed a tailor-made coating system for these sensitive

areas: a **high temperature resistant two-component varnish** that is applicable at a **bare metal temperature up to  $100^{\circ}\text{C}$** , which allows the plant to continuously operate during the revision. Furthermore, the system offers very high **corrosion protection as a monolayer system**, an excellent **temperature resistance up to  $600^{\circ}\text{C}$**  and a peak load up to  $650^{\circ}\text{C}$ . The system effectively prevents corrosion under the insulation of isolated tubes used in refineries or chemical plants while meeting today's high environmental standards.

To be able to provide a maximum of flexibility in regard to possible service temperatures, a binder material was chosen that provides outstanding temperature and corrosion protection performance over a very high temperature range. In combination with a special pigmentation, a very good corrosion protection performance irrespective of the service temperature of the final application can be achieved. •



# Bio-based resins on the rise

Radmila Wollrab

In the paint and coatings industry, many efforts have been recently devoted to the development of bio-based materials. Bio-based products derive from plants and other renewable agricultural, marine and forestry materials to provide an alternative to conventional fossil-derived products. The conversion of biomass and bio-based ingredients into useful products for paints and coatings provides a considerable and sustainable growth potential.

**D**riven by regulations and consumers, an ever-increasing push towards sustainability and a reduced carbon footprint has inevitably influenced the resins industry. This transition to green business is not seen as a challenge in Helios Resins but as an obligation of the industry, which must act responsibly on all levels to promote the spread of sustainable technologies. We take on our role in this global movement with dedication and conviction, earnestly believing that meeting today's need has to be done "without compromising the ability of future generations to meet their own needs".

The meaning of the term "environmentally friendly" in the context of coatings and consequently resins has evolved over the years. Initially, the goal was pollution prevention or reduction. This meant reducing solvents in formulations as well as producing high solid coatings, waterborne and 100% non-volatile coatings such as powder coatings. While the previously mentioned solutions and approaches are still part of the green strategy and are certainly part of Helios Resins' portfolio, every stage from the production to the end-of-life is considered nowadays – from raw material manufacturing to formulations up to application and disposal.

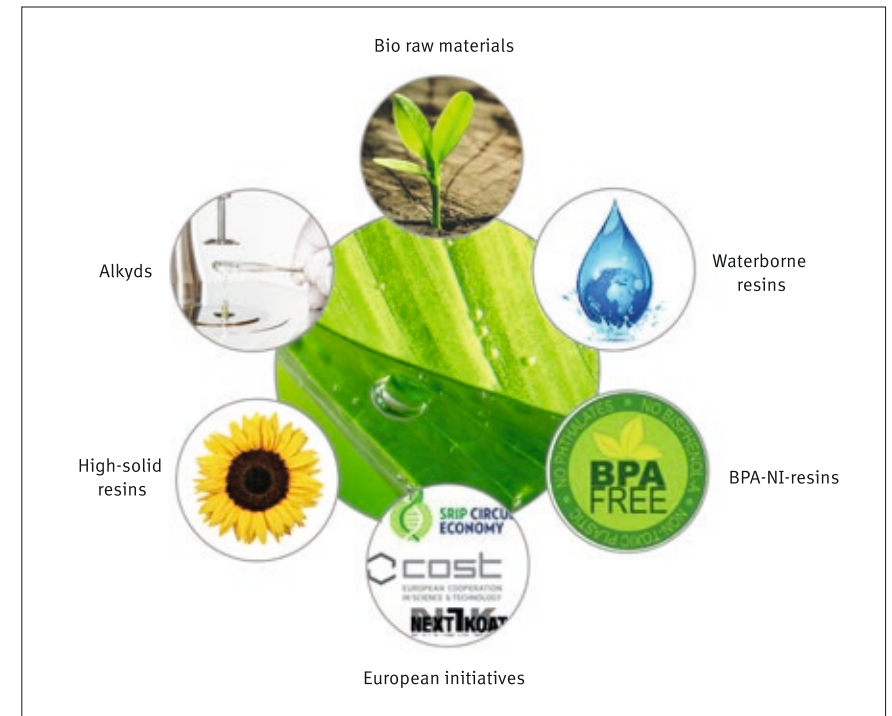


## Biomass as single origin

Providing alternatives to conventional fossil-derived materials is one of our strategic goals. Thus, Helios Resins is investing in the research and development of new bio-based resins produced from bio-monomers that are obtained from a great range of biological carbon sources. In each case, the origin is biomass that is broken down by using adapted chemical processes in a bio-refinery to produce biochemicals that lead to bio-monomers. We are replacing petro-based terephthalic acid with FDCA or recycled terephthalic acid in bio-polyesters for coil. Furthermore, petro-based adipic acid is replaced with bio-based succinic or sebacic acid in bio-polyesters used in 2K PUR coating formulations. Some of our projects include the use of bio-isosorbide and bio-based 1,3-propanediol, 1,4-butanediol and 1,5-pentanediol. Moreover, we are already using monomers that are partially or entirely bio-based in our conventional products, mostly polyesters. Such examples are neopentyl glycol, trimethylolpropane and pentaerythritol. There are two certification approaches in order to determine and communicate the bio-based content to our customers:

## Biobased content quantified with the <sup>14</sup>C carbon dating

A carbon dating method that checks the radioactivity of the carbon isotope is commonly used to determine the percentage of renewable raw materials. Carbon-based materials originating from living organisms (the biobased component) have Carbon-14 in them, while fossil materials (derived from petroleum) no longer have this weakly radioactive carbon isotope. Hence, all the Carbon-14 in the product comes from the biobased component. This method is standardized in both Europe (EN 16640, CEN 16137) and the USA (ASTM D-6866). Products with a minimum bio-based content of 20 percent can be verified by certification bodies such as TÜV Austria or DIN CERTCO and recognized by awarding a label.



## Mass balance method via one of the certification schemes

Declaring bio-based content by using the mass balance method is another approach. This method is, in essence, a chain of custody approaches that traces the flow of material through a value chain. The inputs and outputs as well as the associated information are monitored and controlled as shown in Figure 2<sup>2</sup>. Different certification schemes support this method, among them ISCC PLUS, REDcert and RSB. Since some of our suppliers were already holders of the ISCC PLUS certification, we took the necessary

steps to certify our products with bio-based raw material by using the ISCC certification scheme. We can proudly report that we were successful in this undertaking and now offer several polyester resins with the ISCC PLUS certification.

Even though the price premium for bio-based resins remains a challenge, as customers expect performance benefits for a higher price, Helios Resins is committed to increasing the awareness of nature and climate protection and investing in potential solutions for reducing carbon footprints. •

"FREE ATTRIBUTION" OF THE SUSTAINABLE SHARE TO ONE OR SEVERAL OUTPUTS



<sup>1</sup> Report of the World Commission on Environment and Development: Our Common Future.

<sup>2</sup> The Mass Balance Approach > ISCC System (iscc-system.org).

WELL MARKED – WELL SECURED!

# Sustainability and safety on the road

Wolfgang Fenz, Melanie Vujeva

During the past 25 years of its existence, KANSAI HELIOS' partner company Dixi has managed to become one of the largest coatings distributors on the Bulgarian market. It was a journey that was not only dedicated to "surviving" but rather to a continuous process of working, learning, improving and developing. And this journey is not over yet – the 25 years anniversary is an even greater motivation to continue this path in the future. This means following branch trends, responding to customer requests and providing the highest quality products and services. The success of the company in the coatings industry is even more impressive if you take a look at its starting point.

**R**oad marking is not only important for individual road users. Vehicle assistance systems also work best with clearly visible road markings, therefore they play an essential role for safety on roads. Furthermore, the need for appropriate road markings is also increased by the continuous expansion of the road infrastructure. Economic efficiency, cost benefit, ecological balances and the need for sustainable materials accompany this development.

In most cases, road marking materials are solvent-based paints, as the advantages of these systems are simple and convincing: low investment costs and a particularly simple application. Due to a regular re-marking, the marking also ensures a very good visual traffic guidance. However, solvent-based systems are increasingly losing their popularity – especially because of their impact on

the environment. In addition, their lifetime and traffic guidance properties deteriorate relatively quickly, particularly on routes with higher traffic volumes. Furthermore, their night visibility on wet roadways is not feasible and they are difficult to process.

Based on the long-term expertise and the continuous focus on environmental developments, KANSAI HELIOS road marking experts have been continuously improving the group's solvent-free road marking systems. Climatic conditions often play an important role and are carefully observed. Traditional solvent-based paints and 2-component cold plastic systems have clear advantages in this regard. For this reason, there is a continuous development in the field of solvent-free systems in order to reduce the consumption of solvents. Through the use of high-quality binders, the lifetime of markings can be improved, even at layer

thicknesses which are 30 to 50% below the usual values. By extending the maintenance cycles, this significantly reduces the consumption of raw materials. Tests in the Czech Republic have shown that the lifetime of such markings can be extended from 12 months to up to 36 months, which means a saving of up to 66% in solvents.

#### **Water-thinnable systems as a more environmentally friendly alternative**

Even though there is a continuous effort in the improvement of solvent-based paints, water-thinnable marking materials are increasingly becoming the choice of the future. Modern cold plastic systems have an exceptionally long lifetime and thus ensure permanent traffic guidance on roadways. They are solvent-free and eliminate the environmental impact of solvent emissions from acetone or toluene. KANSAI HELIOS' cold

plastic systems in combination with cold spray plastics enable a lifetime of up to 20 years. The original markings are refreshed every 2 to 3 years in order to constantly meet all traffic requirements. Compared to traditional marking paints, 100% of the solvents can be saved. Even with very valuable resources such as titanium dioxide, the savings potential is approx. 30 to 50%. Compared to classic solvent-based marking

systems, this fact alone means a significant improvement in the material balance in favor of cold plastics. All this is accompanied by the reduction of CO<sub>2</sub> emissions from the production of the markings as well as from the transport of raw materials or finished products. This makes it possible to offer a significant contribution to road safety while maximally protecting the environment and resources at the same time. •



**MODERN COLD PLASTIC SYSTEMS HAVE AN EXCEPTIONALLY LONG LIFETIME AND THUS ENSURE PERMANENT TRAFFIC GUIDANCE ON ROADWAYS.**



PURE NATURALNESS!

# Wood at the forefront of energy efficiency

Jana Simonič

Vibrant, light, versatile, durable, aesthetic, robust – the list of the advantages of wood as a material in interior design or construction is endless. As one of the most environmentally friendly materials, wood has made a new comeback and the boom is still going on.

Today, “back to nature” is a common motto in all industries and a continuously growing lifestyle in our society. Companies are focusing on environmental issues more than ever. And more and more people are rethinking their consumption behavior and are becoming more aware of what they eat, where their clothes come from or which materials their home decoration consists of. No other construction material can meet this wish for naturalness more than wood. But it is not only the material itself: Wooden elements give rooms and buildings a sense of warmth, friendliness and coziness. On top of that, wood offers timeless elegance and aesthetics. In the coatings industry, this is reflected in the development of low-gloss coatings that create the most natural look. Water-based UV curing varnishes and zero VOC enamels are among the most popular products in the wood coatings segment for industrial applications.

## Sustainable protection of a sustainable material

Wood is at the top of the list of sustainable construction materials, offering so many advantages simultaneously: It is a renewable resource with sufficient strength and is flexible, workable, affordable, available and has a high aesthetic value. Against the backdrop of climate change, wood construction is one of the most efficient ways to reduce our carbon footprint in the long run. In addition to all these advantages, the material opens up many possibilities for design, creativity and architectural freedom.

Supporting these advantages, emphasizing the beauty of wood and improving its UV resistance are the main responsibilities of wood coatings. For the protection of exterior constructions, the extension of the coatings’ durability is one of the biggest goals. And, above all, the required coating restoration periods have to be as long, simple and inexpen-

sive as possible. Naturally, sustainable materials need a sustainable protection. Wood coating manufacturers strive to ensure that the production, use and disposal of wood treated with coatings do not adversely affect the environment, consumers or manufacturers.

In the DIY segment, the increased market share of drying oils and waxes in recent years also reflects a growing concern for the environment. Like wood, waxes and oils can be obtained directly from nature and require no further chemical treatment, which reduces the environmental impact. Furthermore, the call for water-based coatings and coatings made out of natural (bio-based) raw materials is getting louder.

But it is not only about environmentally friendly products, it is also about the whole production process and the supply chain – starting with the choice of raw materials of natural origin from renewable sources and biodegradable products. It is also about increasing energy efficiency and a sustainable development approach.

Considering how a coating affects the product life cycle is the first step in using wood coatings, which facilitate a circular economy. A product must be recyclable when it reaches the end of its useful life. IKEA, for example, is committed to becoming “climate positive” by 2030. This means that the company will eliminate more greenhouse gases (GHG) than they produce in their production processes. Product sustainability, biodegradable raw materials, reduced energy consumption during production, the recycling of products and wood coatings that enable these processes will play an important role in achieving this goal.

## Slovenia’s wood industry on the rise

Slovenia is a land of forests and wood. There is a growing interest in environmentally friendly, sustainable and aesthetically superior constructions made of wood. Whether we look at a solid wood building or a prefabricated building with a solid wood structure, wooden skeletal or frame structure, wood is an excellent basis for the best living environment – thanks to its outstanding chemical and physical properties in combination with a huge mass.



The use of wood is included in Slovenia’s industrial strategy. Furthermore, it is strongly supported by the EU leadership. Last summer, an amendment to the Green Public Procurement policy was adopted in relation to wood processing. According to this policy, **at least 30% of wood or wood products have to be included in the design and construction of public interest architecture**, with few exceptions. The regulation has been successfully adopted in practice, as it has created conditions for the construction of many wooden kindergartens, schools and other public buildings. Due to its energy efficiency in terms of material and technology, wood construction takes a leading role in quality, nearly zero-energy construction – not only in Slovenia but worldwide. •

# Rainbow of Smiles

Cornelia Camondo

Children are the future of our society. The further development of our species and our planet lies in their hands. Every experience can have a formative effect on their later existence. Therefore, education, health and social competence are probably the most important topics for adults and parents in raising children. As part of the “Rainbow of Smiles” initiative, KANSAI HELIOS supports projects run by schools, kindergartens, sports clubs or other organizations for the benefit of children – regardless of their origin – all over the world.



“WE BELIEVE THAT A BETTER FUTURE IS OUR SHARED RESPONSIBILITY. IN OUR CLOSE COOPERATION WITH LOCAL COMMUNITIES, WE ARE SUPPORTING PROJECTS UNDER THE INITIATIVE “RAINBOW OF SMILES”, PROMOTING A HEALTHY LIFESTYLE, HELPING THOSE IN NEED AND ENCOURAGING THE YOUTH WHO WILL ONE DAY FOLLOW IN OUR FOOTSTEPS AND SHAPE THE WORLD OF TOMORROW.”



**A**s a paint manufacturer, it is only natural that we accompany renovation projects of children’s facilities and support a variety of projects that bring color into the lives of our children. But we are also very active and greatly involved in children’s sports. Movement and physical activity play an indisputably important role. Physical activity significantly contributes to the healthy physical, mental and psychosocial development of children. Unfortunately, in today’s society, children’s physical activity spaces are increasingly restricted. Television, online games, game consoles or

computers often determine everyday life and have a negative impact on children’s relationship to movement and sports. With our involvement through the Slovenian basketball club “Helios Suns”, for example, we motivate children to participate in sports and team activities. We develop their motor skills, strengthen muscles and bones and teach them social skills – they learn rules, cohesion, a sense of community, consideration and strengthen their immune and cardiovascular systems. And even those who do not play directly in the team receive the opportunity to be involved in and be part of the team.

“Rainbow of Smiles” also pays attention to the very youngest in our society whose life struggles begin right after birth. Premature babies need very special, intensive care and therapy. We support the Society for Helping Premature Babies, which raises funds to purchase much-needed equipment to prevent these little ones from suffering permanent damage. Donations are also used to provide continuing education for doctors, nurses and other health care professionals.

“Rainbow of Smiles” uses all its resources to lend a helping hand to children wherever needed. This way, we would like to contribute to the future of us all. •



**Mitsuru Masunaga**  
Executive Vice President,  
Executive Director  
KANSAI HELIOS

# NO SUCCESS WITHOUT INTEGRITY

**A**t KANSAI HELIOS Group, the ESG framework represents an inseparable part of our business. As its individual pillars can never be separated, it is innovating the way we perceive the compliance function as part of sustainable governance. For KANSAI HELIOS, excelling in governance means more than just following the laws. That is why compliance encompasses our commitment to implement honest and fair corporate governance practices and to strengthen integrity across all business processes. It is about making an impact as a trusted international business member, addressing standards and expectations of society and, on top of that, complying with laws and regulations.

## Keeping up with the pace of changes

Over the past two decades, a number of global trends and common tragedies have transformed the international business context. The requirements and expectations regarding the role of compliance are expanding accordingly. Traditionally, it was narrowed down to regulatory and legal compliance. But today, it is transforming into a platform responsible for enforcing core values and integrity across organizations, creating awareness for sustainability and much more. While keeping up with the pace of change in the world and in society, KANSAI HELIOS is accelerating its compliance commitments and embracing integrity as the main direction.

On our journey through the transformation of compliance, we will strive to streamline processes, leverage technologies and establish the right mindset and corre-

sponding skills. By influencing corporate culture in favor of compliance and integrity, our aim is to create an environment where our colleagues can, want and make the right decisions. We hold ourselves accountable for strengthening our compliance program to enhance the transparency and accountability of our operations and to encourage all stakeholders to act the right way.

While a strong tone from the top is essential, more rules do not necessarily lead to a more secure system. We will review and redesign our business conduct guidelines and offer clearer rules, highlighting its connection to our business and behaviour towards colleagues. By simplifying our code of conduct, we want to make sure that all our decisions are guided by the same values and that the policies we set are truly brought to life. At the same time, we will empower all our management levels and employees and provide resources to mitigate risks and stay ahead of regulatory change.

## Efforts always pay off

At KANSAI HELIOS, we share our responsibility and unwavering commitment to the highest ethical practices and standards of corporate behavior. We have started to write a chapter of an integrity story that literally never ends. Repeatedly writing a sequel is a challenging task. However, in a few years from now, we will look back proudly, as efforts to become a better corporate group, a better partner and a better neighbor always pay off. It is needless to say that without integrity, there is no true business success. •

**"FAIR BUSINESS ETHICS AND SOCIAL NORMS ARE AN INTEGRAL PART OF OUR CORPORATE CULTURE."**



**KR Ing. Hubert Culik, MAS**  
Executive Officer  
KANSAI HELIOS

# ENVIRONMENTAL PROTECTION NEEDS PLASTICS

**W**ith the outbreak of the COVID-19 pandemic, the importance of environment and climate protection has increased once again. Our health is closely linked to the health of our environment and nature. And in this context, the debate about the use of plastic has once again taken on new dimensions. When we think of plastic, we automatically think of plastic waste, polluted oceans and dead fish. And there is no doubt that we should be more conscious in our use of the material. But plastic is not just packaging material, and it certainly does not only have negative properties. The material has led to progress in many areas and even plays an important role in climate protection.

In fact, nearly every industrial solution to fight climate change that is mentioned in the "Green Deal" of the European Commission needs innovations from the chemical industry, most of which are based on the use of polymers. The production of wind and solar power would be unthinkable without the use of plastics or plastic parts. The rotor blades of wind turbines are exposed to wind speeds of up to 300 km/h at a height of 90 meters. In the process, the blade tips can deform by more than a meter. No other material offers such stability combined with high flexibility. In solar power, plastics are used to protect and insulate the panels to make them more durable and reduce internal humidity, therefore making them last longer and reduce the need for resources and CO<sub>2</sub>. The most effective way to lower the climate impact of buildings, which are responsible for a large part of global greenhouse gas emissions, is to insulate them with Expanded Polystyrene

(EPS). And last but not least, high-tech plastics are needed in electric cars to insulate the batteries from excessive heat.

In connection with environmental protection, the chemical industry is also repeatedly in the negative spotlight. Yet although it uses plastic or polymer compounds in the formulation of its coatings, it makes a valuable contribution to climate protection through many direct and indirect steps. Therefore, the uses of plastic and environmental protection are not always contradictory. Plastic or polymer compounds in paint production make coatings more durable, easy to process, long-lasting, flexible and they do not conduct electricity. The longer protection of objects also means that they have a longer lifetime and are replaced less often, fewer resources are needed. Coatings including plastic compounds enable the development of highly effective coatings that get by with thin layers, which means less weight. Furthermore, they enable cathodic dip painting (CDP), where deposited material flows back into the cycle.

In addition to developing environmentally friendly coating solutions, we at KANSAI HELIOS continuously invest in improving our production technologies to further contribute to the protection of our environment. We use the gained energy as a side product of our production process, such as heated water, to heat the premises. We invest in our own solar power systems to generate electricity and develop technologies to clean and filter wastewater from the production process without side waste. Environment and climate protection is one of our basic principles in all business areas. •

**PLASTIC ONLY PARTIALLY DESERVES ITS BAD IMAGE, BECAUSE IN MANY AREAS DEVELOPMENT WAS ONLY POSSIBLE WITH PLASTICS INSIDE.**



# Get in touch

● Russia

● Poland

● Germany

● Ukraine

● Czech Republic

● Slovakia

● Austria

● Hungary

● Romania

● Slovenia

● Croatia

● Serbia

● Italy

● Bosnia & Hercegovina

● Montenegro

● North Macedonia

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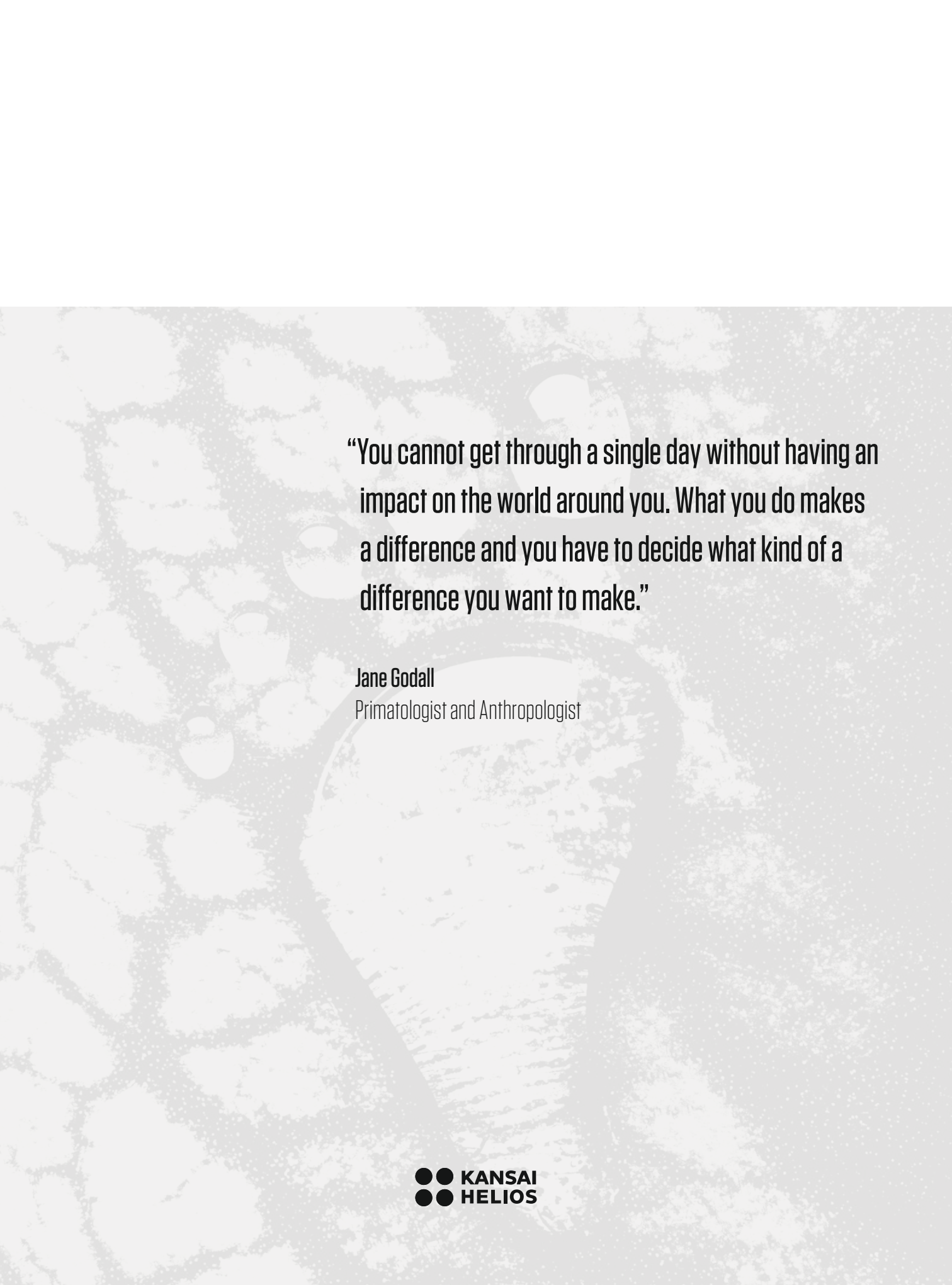


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**“You cannot get through a single day without having an impact on the world around you. What you do makes a difference and you have to decide what kind of a difference you want to make.”**

**Jane Godall**

Primatologist and Anthropologist